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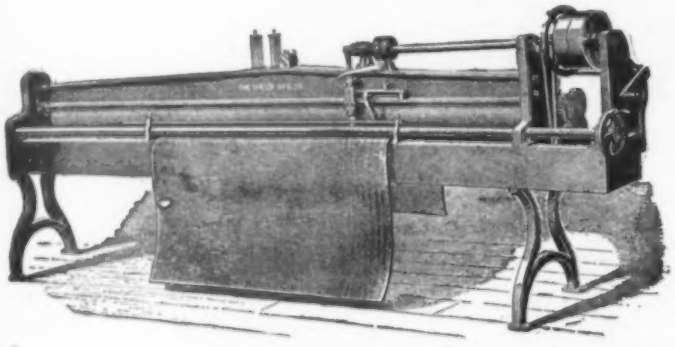

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CONDITION OF THE RUBBER TRADE.

OF course no well informed person will regard certain recent business failures as indicating an unfavorable condition of the rubber trade as a whole. Such an idea could prevail only among those outsiders who have been led, by the amazing misinformation in some widely circulated newspapers, to suppose the rubber industry, and to a large extent the crude rubber business, to be practically under a single control. The real leaders in the trade have been too busy making rubber goods and selling them at a profit, to be concerned about such so called rubber news as has appeared in the daily press for some years past, and the failures referred to above have affected them little if any more.

For the last two or three years the rubber trade in the United States—always profitable when general business conditions are not totally bad—has appeared to be in particularly good shape. There has been a steady increase in the production of goods, which have been sold—with the exception of the shoe branch—at stable and satisfactory prices. Never before have there been so few idle rubber factories; at no period has the number of new factories been greater, or the extension of capital and plant of old companies more general. Rubber is in use to-day for every important purpose for which it has ever been used, and the demand for every line of rubber goods is greater than at any time in the past. The buying capacity of the people was never so great, and the tendency is to buy better instead of poorer grades.

If there is an exception to the generally profitable condition of the rubber trade, it is in the boot and shoe line—and this is owing, not to a lack of demand for goods, not to the unwillingness of any wearer of "rubbers" to pay a fair price for them, but to a war in prices, entered into by the manufacturers, with an eye to future supremacy in the field rather than to present dividends. Of late, however, there has been an advance in factory prices for rubber footwear, besides which the exceptionally low prices of last year proved not to be so low as they seemed, on account of the decline which has occurred in the cost of crude rubber.

While the recent failures are to be regretted, they no more involve the whole rubber trade than the failure last summer of one bank, among nearly a hundred in New York city, involved the whole local financial situation. Every man who buys crude rubber to sell again is liable some day to find himself wishing that his foresight had been as good as his hindsight turned out to be. And any crude rubber merchant who is congratulating himself to-day upon not having entered upon such transactions as were the forerunner of one of the late failures, should at least not boast of superior judgment; it may be just as easy again as in the past to buy rubber for more than it can be sold for. But a decline in crude rubber doesn't injure consumers; nor, on the other hand, did the last decline result from a falling consumption, but from increasing supplies. As for the single manufacturing failure connected with the embarrassment of the crude rubber house, the relations of the two

concerns have not been made clear enough to justify comment at this time.

WIRELESS TELEGRAPHY AND INSULATION.

THE very brilliant experiments which Mr. William Marconi has lately been making in the direction of long distance wireless telegraphy have caused, among those who are not particularly well informed, some feeling of alarm lest the business of the transatlantic and other long cables might be affected by the commercial success of the new discoveries, and lest the manufacturers of insulating materials might find their market restricted through a decreasing demand for such cables. That this is not the case is easily seen by some consideration of the known facts in connection with Mr. Marconi's experiments and their probable and possible outcome, which is at present clearly indicated.

The whole possibility of wireless telegraphy as a commercial proposition rests definitely upon the ability of inventors to devise something which appears not yet to have been perfected—that is to say, a syntonic system.

A syntonic system of wireless telegraphy is one in which the sending station sends out electrical waves of a definite pitch, which may be compared to a musical note, and in which the corresponding receiving station is definitely attuned to receive this particular variety of wave—this particular note, so to speak—and to respond to it and to no other. Evidently, by selecting different fundamental periods of vibration or, we may say, pitch of waves, different syntonic systems may be operated in the same field. While numerous experiments have been carried on by Mr. Marconi and a number of other investigators, no really definite success has yet been attained in this direction, and it seems fair to say that thus far syntonic wireless telegraphy is not commercially developed. And it also seems fair to say that certain limiting and circumscribing conditions which surround every known method of generating electric waves will reduce the number of possible syntonic systems to a very few.

The reason for this is found in the fact that electrical oscillations and vibrations, set up in the usual manner practised by experimenters in wireless telegraphy, result in the formation of a compound wave, not resembling a pure musical tone in character but rather bearing a similitude to a noise, in which a fundamental rate of vibration is topped and embroidered with innumerable wave-lengths bearing to it certain harmonic relations. Indeed, the action of an ordinary oscillator is such as to produce waves having, to follow the acoustic analogy a little further, a close resemblance to the sound that would be produced if all the keys of a piano were struck at once. The production of a single rate of vibration corresponding to a pure tone seems to be practically impossible. For this reason, even if an attuned system of receiving circuits could be devised, the effect upon it of stray harmonics and overtones would be probably to call it into action when this was undesirable. For this reason, seeing that every fundamental rate of vibration is accompanied by others bearing simple arithmetical ratios to it, the possible number of syntonic stations and systems which may be made coëxistent in a given radius of operations is reduced to two or three, in which the fundamentals are so related to one another that their overtones and harmonics will not interfere.

For this very reason the production of a long distance system capable of transmitting a wireless message across the Atlantic is apt seriously to interfere with the operation of other systems within a radius of 2000 or 3000 miles from the sending station. But even if we may assume that syntonic systems are perfected, and that methods of such power as to permit commercial operation of transatlantic signals are put into practice, then the fact still remains that for commercial purposes these systems will not be able seriously to compete in business with the cables.

The reason is sufficiently evident. In no system using the earth and the air for its channel of transmission is it possible absolutely to secure secrecy. If a transmitter is set up in England powerful enough to affect a receiver attuned to it in Massachusetts, for example, then only a comparatively simple exercise of experiment will be necessary to devise another receiver equally well attuned to take off and reproduce the messages received. This objection appears to be fundamental. It is not believed to be likely that the world's business would be entrusted to any system of communication openly liable to unwarranted interference and publicity.

For all of the above reasons it seems to-day that neither the cable companies, the cable manufacturers, nor the makers of insulation have anything to fear from the exploitation of wireless telegraphy. Indeed, it is fair to say that the future use of this system of communication seems to be, to some degree, confined to marine signaling and communication. For this purpose it is well adapted, and its extension in this direction will without doubt be of almost inestimable value. But nothing has been done up to date that indicates, even dimly, the possibility of actual commercial competition between cable systems and wireless systems of communication.

THE GOVERNMENT AND RUBBER.

THE present attitude of the department of agriculture at Washington toward the investigation of rubber resources and production merits the approval and support of every branch of the rubber trade. There is no longer any reason why rubber—any more than wheat, or tea, or hemp—should remain a forest product, to be gained by unsystematized and uneconomical methods. Much has been done by individual, private enterprise in the direction of bringing the production of rubber under more intelligent supervision, but vastly more remains to be done. The rubber belt is so wide, and the conditions so varied, involving, among other things, so many rubber species, and the whole production is so remote from the centers of consumption, that any changes based upon unconnected individual enterprises must be slow.

While the gathering and marketing of rubber—and its planting, for that matter—must always be under private

control, and based upon private capital, governments can render great help to the interest, particularly in the way of collecting and disseminating correct information. Reports by trained scientific observers, intent upon discovering facts rather than making profits, when published officially, gain a wider circulation and are accepted as more trustworthy than even similar reports from any private source. Of the mass of printed matter in THE INDIA RUBBER WORLD's library regarding the sources and conditions of natural rubber supplies, by far the greater part is the result of official or semi-official investigations. There is not one book in the lot written by a private individual who has traveled in and studied any rubber country on his own account.

The United States government in the past has given little attention to the subject of rubber, considering that more than half the world's production is consumed in this country. But now that we have extensive tropical possessions, the same reason exists for studying the development of a rubber interest in them that has appealed to every colonizing power in Europe. The present disposition at Washington is to discover, not only what plants of economic value exist in our tropical territory, but what plants in other countries of corresponding latitudes may be introduced profitably therein. The department of agriculture, in making the estimates of money needed for the coming fiscal year, has included the following clause, which, it is understood, refers in an important degree to rubber :

> *Botanical Investigations and Experiments.*— - - - -; to investigate and publish reports upon the useful plants and plant cultures of the tropical territory of the United States, and to investigate and report upon them, and introduce other plants promising to be valuable for the tropical territory of the United States, such plants and botanical and agricultural information when secured to be made available for the work of agricultural experiment stations and schools; - - - - $65,000.

It might tend to influence Congress favorably in respect to voting the appropriation if citizens engaged in the rubber trade would write approving the measure, to senators and representatives from their states, or whom they know personally; or letters might be directed to the chairmen of the committees on agriculture, of the senate and house of representatives, respectively.

THE IMPORT DUTY ON RUBBER SHOES continues to receive much attention in view of the revision of the German tariff schedules now under way. In this connection the American duty on goods of this class is often mentioned, in comparison with the rate charged in other countries, and it appears that Uncle Sam makes a pretty heavy charge. It does not follow, necessarily, that a high tariff on rubber footwear in any country will build up the shoe making industry there. Although the protectionist policy has long prevailed in the United States, there probably is no industry in any land whose leaders have been less concerned about tariffs than our rubber shoe manufacturers. It is doubtful whether the rate that would be charged on an importation of rubber shoes is known in any rubber factory in the United States to-day. There is no special duty on such goods, and the rate would have to be computed by analogy. Nor do we believe that, among the countless representations that have been made to the Congress in the past in behalf of protection to home industries, any has been heard from a rubber shoe manufacturer. The success of the American firms in this branch is due to the fact that they have made the kind of rubber shoes that were wanted. Having succeeded at home, they are now giving their attention to other markets, in the hope of obtaining a share of their trade by similar means. This is a consideration for rubber manufacturers in other countries to keep in mind, rather than the rates of duty imposed at their custom houses.

THE LIST OF DUTIABLE IMPORTS into the Philippine Islands includes sample rubber goods "with commercial value." It seems worth while to note that such imports during the fiscal year ended June 30 last amounted in value to $470, whereof $443 is credited to Germany, and nothing to the United States. During the same year the United States supplied 29.2 per cent. of the total value of rubber goods imported into the Philippines, and Germany only 19.4 per cent. In view of the fact above mentioned, in respect to the introduction of sample goods, it will be interesting to see whether the share of the United States in this trade will be relatively as large next year.

THE SCALE OF WAGES OF LABOR in the manufacture of submarine cables is lower in Europe than it would have to be in the United States in order to attract any labor to this industry. But, as a member of the insulated wire trade points out on another page of this paper, the higher rate of wages would probably be offset by the increased average efficiency of the men employed. We have, upon more than one occasion, referred to the fact that the higher wages paid in American rubber factories do not prevent the sale of their products abroad, in competition with the products of factories paying a lower scale of wages.

THE RUBBER TRUST HAS FAILED, according to the able Englewood (N. J.) *Times*. The issue of that paper for January 11 stated: "Last week an application was made for the appointment of a receiver for the Rubber Trust, and for its liquidation." The editor of the *Times* considerately sent marked copies of his exclusive news to many rubber men, who suspect that he has been the victim of a practial joker. It would be interesting to know whether the enterprising editor is laughing over the matter with the amused rubber men, or swearing in secret.

IT SHOULD ENCOURAGE RUBBER MEN to learn from a writer in the Pittsburgh *Leader*, that "Marconi's wireless telegraphy requires insulation to make it practicable." The idea must be to insulate separately each message transmitted, instead of wrapping tons of copper conductor with Gutta-percha, as is now the case in submarine telegraphy.

THE UPRIVER RUBBER COUNTRY OF THE AMAZON may be in the backwoods, but it is the scene, nevertheless, of many phases of business enterprise. For example, the police of Manáos arrested recently two men who had in their possession 192,000 milreis in counterfeit money, with which they were proceeding to the river Purús to buy rubber.

IS AKRON GETTING READY to manufacture all the rubber goods needed in this country? In no other town have so many factories been started in recent years, and they no sooner are started than they begin to grow.

ARE HOSE GUARANTEES AN EVIL?

THE new public prosecutor in New York county—Mr. Jerome—has views in relation to the guaranteeing of fire hose for this city's use which are at variance with the generally accepted idea. Mr. Jerome lately made a statement on this subject to the City Club—a "good government" organization in New York—the substance of which has appeared in the newspapers. According to these reports, Mr. Jerome considers a guarantee on fire hose sold to the city to be of no benefit to any one except to any dishonest city employé to whom it may give an opportunity to "shake down" the manufacturers. In other words, Mr. Jerome believes that, in the case of goods sold to the city under guarantee, a system of blackmail exists, whereby those whose duty it is to see that the guaranteed article comes up to all its requirements, force the seller to pay blackmail, in order that the goods may not fail before the term of guarantee expires. Mr. Jerome said that he had been talking with a rubber manufacturer who did not sell fire hose to the city, and he knew what he was saying.

As matters stand, it is asserted that it is an easy thing for a city employé to go to a maker who has sold hose with a guarantee, and say to him that a certain amount of the hose is "no good" and has burst—and it is not difficult to get sufficient water pressure to burst a length of hose after it has stood the legal test. Of course the manufacturer knows that his hose is all right, but he doesn't want to risk having its reputation damaged by an official condemnation—and he saves himself trouble by handing the official inspector a bill large enough to make further complaint unnecessary—for awhile, at least. The manufacturer doesn't care to lose the money thus wrung from him, and it would not be strange if, in bidding for hose thereafter, he should make his prices high enough to cover any such incidental expenses as have just been indicated. Gradually, in this way, according to the outside rubber manufacturer quoted by Mr. Jerome, the price charged to the city for fire hose has become much too high.

Now, supposing that there were no guarantees, it is claimed that it would be an easy matter to make tests showing just how good the hose was, and the inspector would know its worth just as well as the maker. He could tell just how long it would last as well as the maker, and the contract for hose could be awarded upon that basis. There would be no guarantee, the inspectors would have no motive for dishonest tampering with the hose within a certain period of time, the manufacturer would not be "bled" as the price for not molesting his hose—and the city would save money by getting hose at a lower cost.

AMERICANS IN THE ACRE DISTRICT.

THE secretary of the Bolivian legation at Washington has addressed a note to the *Mexican Herald* which exonerates the United States from an accusation recently launched against it. Some time ago the region of the river Acre, in Bolivia, which is very rich in rubber, was invaded by filibusters coming from Brazil, who, though disavowed by the government of Rio Janeiro, established there an ephemeral republic, proclaiming its secession from Bolivia. The troops of the latter, after two tedious expeditions across the mountains, swamps, and wilderness of that almost unexplored part of South America, and after some heroic fights, vanquished the filibusters and restored to Bolivia the territory of Acre.

The Bolivian government then granted to an Anglo-American company, having headquarters in London and New York, a concession for the exploitation of rubber and other resources in that territory, where peace had been reëstablished. This was enough for some to affect to believe that the said company was exclusively composed of Americans, and to proclaim, as it is published in *El Tiempo*, of Buenos Ayres, that American capitalists were about to monopolize the territory of Acre; that "first come the claims of the business men, and then the soldiers arrive"; and that if Americans were allowed to extend their influence to the upper Amazon, they might do the same in Argentina.

A Mexican newspaper, going still further than the Buenos Ayres journal, imagined that Bolivia, instead of merely granting an industrial and commercial concession, had actually alienated forever the Acre territory to foreigners. Thereupon, and in order to show that neither the United States nor any other power could indulge the idea of becoming possessors of any portion of the territory of Bolivia, the Bolivian minister at Washington caused his secretary of legation to write to the *Mexican Herald* a letter, from which the following is an exract:

"Bolivia has not sold its territory of Acre. The contract, of a merely private character, that has just been entered into with a syndicate of capitalists to promote the development of the rich zone called 'Territorio de Colonias' does not in the least affect the sovereignty and independence of Bolivia nor the integrity of that region."

FAREWELL DINNER TO MR. H. C. CORSON.

THE members of the executive committee of Druggists' Sundries Association gave a farewell dinner at the Waldorf-Astoria, in New York, on the evening of January 17, to Mr. H. C. Corson, former president of the association, and who lately resigned as vice president of the B. F. Goodrich Co. There were present, in addition to the guest of honor, Messrs. George F. Hodgman, E. E. Huber, Joseph Davol, George M. Allerton, H. C. Burton, Mr. Fred. H. Jones. The table and dining room was beautifully decorated with flowers and the dinner the best the house could afford. The menu, which is reproduced herewith, suggests a feast which must have been rarely enjoyable. A feature of the occasion was the presentation to Mr. Corson, of a silver loving cup on which the names of the executive committee engraved.

MENU

Huitres de Lynnhaven

St. Marceaux, Brut — Tortue verte claire

Terrapène, Philadelphie

Couronne de jambon aux champignons frais à la crême

Selle d'agneau du printemps, sauce menthe à l'orange

Pommes de terre, Laurette — Piments verts farcis

Asperges nouvelles, sauce Hollandaise

Pamplemousse au marasquin

Canard canvasback rôti

Salade Waldorf avec piments doux

Chambertin

Mousse de fraises fraiches

Fromage — Café

Still Poland Water — Liqueurs

The retirement of H. C. Corson from active work while yet a young man is an object lesson to American business men. He had made a moderate fortune; no doubt if he had remained in business for another ten or twenty years the same ability would make him very rich, but he felt that enough was plenty—that there were better things than mere money getting, and he had the sense to quit. All are sorry to see him go but rejoice in his good luck and his better sense.

On the evening of January 14 the members of the prudential committee of the First Baptist Church of Akron, Ohio, in which church Mr. Corson had been an active worker, tendered him a testimonial dinner.

THE SUBMARINE CABLE INTEREST IN AMERICA.

AMERICAN CABLE MAKING FACILITIES.

THE *Electrical World* (New York) has compiled some details of the cost of cable making in England, compared with the wages which it is assumed would be paid in the United States for similar labor, which may be summarized as follows. The wage rate is given by the hour. Foreign submarine cable factories work two turns of 12 hours each, or one of 12 to 14 hours each, according to conditions. The American working day is 10 hours:

	England.	United States.
Laborers..... ....5 *d.*	[10 cents]	.15 to .17½
Wire weaving..7 to 8 *d.*	[14 to 16 cents]	.20 to .25
Armoring..... 8½ *d.*	[17 cents]	.25
Machinists....¹....10 *d.*	[20 cents]	.25 to .35

The labor cost of an American made cable would thus be 50 to 75 per cent. greater than in England. It is asserted further that a similar disparity exists in wages in the wire-drawing industry, and that the American tariff would preclude the importation of the more cheaply produced foreign drawn wires. The higher cost to American cable makers of copper wire is estimated at from 10 to 15 per cent., and of steel armor wire, as high as 33⅓ per cent.

It is also assumed by the writer in the *Electrical World* that, on account of the predominance of English houses in the Gutta-percha trade, and their greater familiarity with it, the cost of Gutta would prove greater here, at least in the beginning. Last, but not least, in order to tender for an ocean cable, which would require to be constructed without too great delay, a very large initial capital would be necessary for plant and other facilities, on a scale commensurate with those which have been built up by degrees by foreign manufacturers, during a long term of years, the cost being defrayed gradually from the profits on many successive orders, small and large.

* * *

"THE article in the *Electrical World* shows a careful study of the situation," said an official of an American cable company to THE INDIA RUBBER WORLD, "but its writer probably was not aware that at least two American factories had been quietly equipping themselves for submarine cable work. While most of the data in that article will be found sufficiently accurate, the writer overlooks the fact, that in competition between European and American workmen, although the pay is much higher in this country, in nearly every case the amount of work accomplished compensates for the difference in wages. The great supremacy gained by America in the last two years in export trade, allowing us to sell locomotives, bridges, machinery, and manufactured goods abroad, successfully entering the markets that had long been controlled by England, is ample proof of my statement.

"It is stated by English cable engineers, and actually believed by them, that experts in cable manufacture are born, not made. The subject of high insulations is nothing new to Americans. The first successful submarine cable ever made was of American manufacture and laid across the Hudson river. Since that time there has never been a break in the manufacture of insulated wire in this country up to the present day, and it is only reasonable to believe that, with this long experience and the large number of American manufacturers engaged in the insulated industries—there are now fifteen—that our mechanics are sufficiently well educated to construct a submarine cable.

"There have been installed in this country within a short time some of the latest types of submarine cable machinery. While in Europe some time ago I obtained data regard ng the largest cable plants, and found, much to my surprise, that in some respects American manufacturers were in advance of their transatlantic cousins.

"The great drawback to the American industries has been the smallness of their armoring plants, with the inability of a large daily output. While their insulating machines could turn out a large quantity of core, they do not have the facilities for armoring the same. As this industry is new, it is impossible to buy proper closing machines in America. It was, therefore, necessary, in installing one new plant here, to import the latest type high speed closing machinery for this work, plans being so drawn that, in case of an American Pacific cable bill passing Congress, they can immediately increase the number of these machines to a capacity of thirty nautical miles per day, which is five miles in excess of the best foreign factories.

"There is no question that the first Pacific cable would cost more, built in this country, than abroad. American manufacturers should be granted ample protection in the establishment of this new industry. Once established, and with the improvements suggested by American skill and ingenuity, it would be but a short time before they would enter the cable markets of the world, and, with their increased speed in manufacture, rapid deliveries, and the improvements that would surely be made, they would very soon build up a business that would allow them to compete with foreign manufacturers.

"One of the great points of advantage in an American plant would be the ability to use submarine cable making machinery in the manufacture of land wires for telephone, telegraph, and electric light work. Some of the present foreign plants are only run six months out of each year—*i. e.*, only when submarine cable is to be made. Their electrical industries do not of course require the tremendous amount of insulated wire that is used in America. Taking into consideration these economical principles, with the ability for keeping the machinery running on all forms of work, there is no question but that an American plant, when built by a company whose reputation is well established in other lines of wire manufacture, would prove a profitable investment."

* * *

WITH regard to the suggestion in the *Electrical World* that American manufacturers would be at a disadvantage in buying Gutta-percha, the gentleman above quoted did not speak. It might be noted here, however, that although few Americans have ever engaged in the crude rubber trade in the primary markets, the rubber manufacturers here have never been at a disadvantage in getting all the raw material they needed. In fact, THE INDIA RUBBER WORLD has been assured by an English rubber merchant that manufacturers on this side are "closer" buyers of crude rubber than in England. As for Gutta-percha, its use in continental Europe is increasing—chiefly for cable making—and in 1900 there were shipped from Singapore direct to those countries 5,500,000 pounds, or more than the world's total production a few years before. If these countries have not been deterred by England's predominance from going into the Gutta-percha trade, why should the United States be? Indeed, the cable making industry of England was to a certain extent an importation from Germany, the original Siemens

house having established a branch in England, before the days of free trade, to avoid paying duties on their products sold in the latter country.

THE AMERICAN PACIFIC CABLE.

IN the report presented to the shareholders of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited, at the annual meeting in London on December 17, the directors stated that the company had just commenced the manufacture of 2400 nautical miles of cable for the Commercial Pacific Cable Co. This cable would also be laid by them. The board tendered for this work at an extremely low figure, in order to secure the contract.

The chairman stated that he had an object in giving the shareholders this information, as he did not wish them to go away with the impression that the work might prove highly remunerative. As they were aware, one could not, in this class of work, which entailed considerable risk through unforeseen misfortune from weather or from other causes, predict results from a financial point of view. They might rest assured, however, that nothing would be wanting in the skill and foresight brought to bear for the successful accomplishment of the work, and they hoped that when the cable was laid between San Francisco and Honolulu, extensions of the line would be determined upon, and that a portion of the work would fall to the company's share.

* * *

GEORGE G. WARD, vice president of the Commercial Pacific Cable Co., testifying before a congressional committee at Washington on January 10, stated that the new cable was being manufactured at the rate of 240 miles per month and that $182,655 [about £37,500] had been paid on contract. He said that the company proposed to charge $1 a word for messages between San Francisco and Manila, and 35 to 50 cents to Honolulu. Until recently the cost of cabling between New York and Manila had been $2.35 a word, but in November last, in view of coming competition, the rate had been reduced to $1.66.

* * *

WHILE no specifications have been made public regarding the Commercial Pacific cable, THE INDIA RUBBER WORLD learns that the amount of Gutta-percha to be used will be about 750 tons, and of copper about 500 tons. Taking 2400 nautical miles as the length, would give an average weight per mile of 700 pounds of Gutta-percha, and 466⅔ pounds of copper. The practice hitherto, while the amount of material and the relative proportions varied, was to employ a greater weight of copper conductor than of Gutta-percha. Thus the French cable laid between Brest and New York in 1898 contained 660 pounds of copper and only 396 pounds of Gutta-percha per mile. In some other important ocean cables the ratio of copper and Gutta-percha has been 650–400 pounds, 552–368, 510–325, 500–320, and so on—the copper always predominating in weight.

* * *

AT Washington, on December 4, Senator Hale reintroduced the Pacific cable bill as it passed at the last session of congress. It provides for the construction by the government of a cable from the western coast of the United States to Hawaii. In the house of representatives three bills have been introduced: (1) by Mr. Jones of Washington state, proposing a Pacific cable, by the northern route, via Puget Sound, with an appropriation of $8,000,000; (2) by Mr. Corliss, of Michigan, proposing a government built cable; and (3) by Mr. Sherman, of New York state, offering a plan allowing private participation in the enterprise. During the past month there have been hearings before the committees in the two houses to whom the cable bills have been referred. The Commercial Pacific Cable Co.'s representatives appeared to protest against any legislation on the subject, and against governmental competition with their enterprise. Western Union Telegraph interests, on the other hand, protest against a cable monopoly in private hands, maintaining a service which they could not use in sending transoceanic messages without being discriminated against. Hence they favor governmental control of the new cable.

* * *

THE New York *Electrical Review* says: "There are not at present any cable-ships flying the American flag of capacity sufficient to undertake the laying of even the shortest length of the contemplated cable across the Pacific. It is chiefly to this lack that we must lay the blame for the contract for a transpacific cable going to foreign concerns." The *Review* suggests that the government equip as cable ships one or two of the foreign built vessels purchased for transport service during the war with Spain, and now no longer needed by the military establishment.

PROGRESS IN AMERICAN CABLE MAKING.

THE contract awarded to a New York firm for the construction of nearly 500 miles of submarine cable for the Mexican government was referred to in the last INDIA RUBBER WORLD [page 116]. The cable is to be insulated with Pará rubber, put on by the seamless process. It is stated that the contract was secured in competition with European manufacturers, but that the high grade and good results from this form of insulation, as manufactured in the United States, won the contest, at a price in advance of the foreign tenders. "The warm waters of the Mexican gulf," it is stated, "and the resultant animal life, espedially the *teredo*, make it advisable to use India-rubber insulation, as it has the double advantage of withstanding the heat and is not attacked by the *teredo* as Gutta-percha is." During two years past over 1000 miles of rubber insulated cable, built by this company, have been laid by the United States army signal corps in the Philippine archipelago, one section at a depth of 1⅛ miles. These cables, besides being subjected to the usual conditions of service, are said in some cases to have been required to meet emergencies never before equalled, owing to mishaps due to laying them in unchartered waters, the wrecking a cable ship, with the resultant strain on the cable and its long exposure to the sun, and so on. But all the cable laid is now working satisfactorily.

* * *

ON January 6 bids were opened at Washington for approximately 250 miles of submarine cable for the Philippines service, to be made in every respect similar to that previously made by The Safety Insulated Wire and Cable Co. (New York). On account of the success of the rubber insulated cables already in use, the chief signal officer of the army awarded the contract to the Safety company.

IT is well known that the jar ring business is a very large item in the line of mechanical rubber goods. A quiet revolution now taking place in this business is in the methods of packing. Whereas in the past they were sold almost entirely in bulk, today the package ring has almost wholly driven out the bulk ring, which is a move in the right direction, from both the manufacturers' and consumers' standpoint.

THE exhibits of vegetable and mineral products—including India-rubber—from Central America and Sonth America, displayed at the Pan American Exposition, at Buffalo, last year, have been deposited in the Philadelphia Commercial Museums and will be shortly catalogued.

AN AMERICAN REPORT ON GUTTA-PERCHA.

THE report of Dr. Penoyer L. Sherman, Jr., the special agent of the Philippine forestry bureau detailed last year to visit the Straits Settlements, Java, etc., to gather information regarding Gutta-percha, has been published as an appendix to the latest report of the United States Philippine commission [mentioned in the last INDIA RUBBER WORLD—page 98.]

He reports that the principal supply of the Gutta-percha of commerce comes from points which only wild natives will or can penetrate, and the preparation and marketing of the Gutta—up to its arrival at Singapore—is in the hands of the Chinese, who carefully guard all the secrets of the trade. He gained the impression that the supplies now being "worked" are rapidly diminishing, the quality decreasing, and prices increasing.

The annual output of Gutta-percha has increased but very little within the past five years, when the high prices have enticed more native gatherers into the forest. Yet even then the demand has been so out of proportion to the supply that even the Chinese have had to resort more and more to adulteration. Consequently, of the cheaper grades there seems to be plenty on hand, but of the best variety there is not more than a ton all told [at Singapore, in September, 1901], with a demand for 600 or 700 tons. From long experience the Chinese are very clever in mixing, coloring, and adulterating the finer grades with the cheaper ones, although they apparently have nothing but smell, feel, and color to go by. And just as the natives guard the secret of the different kinds of Gutta-percha trees and their locality, so do the Chinese hide their methods of preparing Gutta-percha for foreign markets. With the supply coming from different countries and trees, and changed and adulterated in different ways, it is no wonder the kinds and varieties of Gutta-percha for sale in Singapore are very large. Of the twenty-five different varieties, the following table gives the principal ones, with their approximate amount of Gutta, and their prices [in Mexican silver, for September, 1901] as given by Low How Kim & Co., one of the largest Gutta-percha dealers in Singapore:

KIND.	Variety.	Per cent. Gutta.*	Price per Picul.
"Reds"	Pahang	78	$260
	Bulongan	69	225
Sundek	Bagan	57	210
	Serapong	56	180
	Sarawak	..	85
White	Treganor	52	85
	Pahang	..	90
	Jambui	49	..
Mixed reds	Sarawak 1	61	110
	Sarawak 2	56	90
	Sarawak 3	52	70
	Sarawak 4	..	40
Reboiled	Padang	50	90
	Penang	..	90
	Siak	..	11

[*These percentages are stated by Dr. Obach. Dr. Sherman writes: "As the percentage of Gutta in a sample of pure Gutta-percha from the species *Dichopsis gutta* is generally 85 to 90, it is certain that the best commercial variety is far from being pure."]

The grading as here given has been changed from year to year, the names simply signifying some peculiarity of the Gutta-percha and the places from whence the different varieties are supposed to come. There is no connection whatever between the different kinds [as described commercially] and the species of the trees. This lack of connection has greatly retarded the scientific study of Gutta-percha for, when the products of two different kinds of trees are mixed, there is no known way of separating or identifying them.

A table is given of imports of Gutta-percha into Singapore for 1900, and also of the exports. Two grades are given—corresponding evidently to Gutta-percha and Gutta-jelatong (Pontinak)—the totals being as follows, in pounds:

	Imports.	Exports.
Gutta-percha	9,875,533⅓	12,986,600
Inferior Gutta	15,683,866⅔	12,790,000
Total	25,559,400	25,776,600

These figures compare very closely with returns printed already in THE INDIA RUBBER WORLD, which has stated the export of true Gutta-percha from Singapore in 1900 at 13,684,133⅓ pounds, as against 12,986,600 pounds above.

From the tables it is seen that Gutta-percha is divided by the statisticians into Gutta-percha proper and inferior Gutta, anything under an import price of $15 [Mexican, per picul of 133⅓ pounds] coming under the latter head. This new method of dividing the Gutta-percha into a high and low grade was devised in order to avoid the misleading figures of the Gutta-percha trade, which resulted formerly when the great quantity of inferior Gutta, which is in truth no Gutta at all, was considered a real Gutta-percha.

This grouping into *real* and *inferior* Gutta-percha gave an unique clue to the Chinese practice in Singapore, for it can be seen that in 1900, for example, 23,000 more piculs [3,111,067 pounds, to be exact] more of Gutta-percha were exported than were imported, while at the same time 21,000 piculs [2,893,867 pounds] less of inferior Gutta were imported than exported. As the average price of the inferior Gutta is $4.40 per picul, and the average price of Gutta-percha $74 per picul, this work of adulteration of the real with the inferior netted some $1,500,000.

Dr. Sherman is inclined to the belief, since he visited the recognized Gutta-percha producing districts, that Gutta-percha species of value exist in important quantities in the Philippines, though up to date the most valuable species (*Dichopsis gutta*) has not been recognized there. But even if this species should not be found, Dr. Sherman believes that it may be introduced under cultivation, citing in support of his belief the success which has attended the experimental planting of Gutta-percha, under governmental auspices, in Java, to which island the true Gutta-percha is not indigenous. The Dutch government began planting Gutta-percha in 1847, as a result of which many thousands of trees have come into existence, but as they are of more value in producing seed for further planting than for their product of gum, no extraction is allowed. In view of the diminishing native supplies, the government is now devoting serious attention to Gutta-percha cultivation, and active steps have been taken in a program that, by 1907, will have 900,000 to 1,000,000 Gutta-percha trees planted in Java alone.

In regard to the amount of Gutta-percha secured by the natives in their careless way of working it is almost impossible to say. Their own statements are both inaccurate and wilfully misleading. The experiments made by botanists and others show pretty conclusively that the amount of Gutta-percha in a tree increases with its size and age. The amounts secured by supposedly reliable witnesses vary from only a few ounces to 13½ pounds. This is not to be wondered at, as the trees felled were of all sizes and ages. Ons of the latest and most carefully carried out experiments by Curtis gave 1½ pounds of pure Gutta-percha, the tree being large and full grown. Most experimenters agree that the natives, from their careless methods, only get, on an average, 1 pound from each tree. These experiments naturally suggest the queries: First, what amount of Gutta-percha does a tree really contain; second, what proportion of the total Gutta-percha in the tree can be collected by ringing the tree in the native way? Wray experimented on the large Gutta-percha tree found in the forest, with a view of throwing light on the matter. By felling and ringing the tree, native fashion, he secured about ⅝ pound of Gutta-percha. He then analyzed the bark and leaves, computed their weight, and concluded

that there had been at least 25 pounds in the entire tree. Thus, by the native method, only one-thirty-fifth to one-fortieth of the entire yield can be secured. From an experiment conducted by P. von Romburgh, on another tree, cultivated, the above figures would appear to be too large, but even if we take a perfectly safe estimate of one tenth as the amount secured, the fearful waste is very evident.

Many years ago it was found that the bark left on the Gutta-percha tree which had been felled by the natives and left to rot in the jungle still contained 5 per cent. of pure Gutta-percha, while the dead leaves had 7 to 10 per cent. Consequently many experiments have been made, in European countries, as well as in Singapore and Java, to get a working process for extracting Gutta-percha from bark and leaves. The processes thus resulting are both patented and secret, and Dr. Sherman was not permitted to examine them, but he inclines to the belief that all the Gutta-percha factories now running in the East have greatly improved their methods and machines since the beginning. The consensus of opinion seems to be that, by the time the Gutta-percha plantations are ready to furnish leaves enough, the factories will be able to produce the best grade of Gutta-percha.

To sum up, Dr. Sherman believes, after visiting the Gutta-percha regions already exploited, that the Philippines contain Gutta-percha species of value. If the best species is not to be found native, the conditions are favorable for its introduction. A supply from plantations may be a long time coming, but the Philippines will be equally situated with other countries, when the native supplies have become exhausted and plantations of Gutta-percha are the only dependence. And by the time plantations are matured, the work of chemists will have provided means for obtaining a steady annual yield of Gutta without injury to the trees.

GUTTA PERCHA EXPORTS FROM SARAWAK.

THERE is a growing output of Gutta-percha from the British protectorate of Sarawak, of which Kuching is the capital, on the western coast of Borneo, and which has an area equal to that of Illinois, in the United States. According to Dr. Obach, the exports of Gutta-percha for the five years ended 1896 were 1,593,984 pounds—an annual average of 318,797 pounds—of the average export value of 35½ cents. The last report of the British consul in Sarawak contains data from which this table has been compiled, giving the weight of yearly exports in piculs, and value in English money, with equivalent weights in pounds and value in American money:

YEARS.	Piculs.	£	Pounds.	Cents.
1897....	2867	18,553	382,266⅔	23⅝
1898....	3745	27,573	499,350	26⅞
1899 ...	8980	56,562	1,197,333⅓	23
1900....	7964	78,829	1,061,866⅔	36⅛

Gutta-percha is gathered by the native Dyaks, who can be hired for 7 pence per day. The trading is chiefly in the hands of Chinese. Some of the best Gutta-percha known to commerce comes from Sarawak, but there is also included much "Sarawak mixed," which Obach describes as "a very useful second class material." The average export value, therefore, is less than for Gutta-percha from Penang or Malacca, in the Malay peninsula. Sarawak Gutta-percha is exported wholly to Singapore.

A BRITISH REPORT FROM SINGAPORE.

THE annual colonial report on the Straits Settlements for 1900 contains these details relative to the trade of Singapore: Gutta of good quality increased its export figures by over 1000 tons, but inferior kinds fell off by about the same amount. This low priced produce, chiefly Gutta-jelatong [Pontianak], is sent principally to the United Kingdom and the United States. Borneo and India rubber exports decreased by over 500 tons. The increase in the value of Gutta-percha exported to the United Kingdom was £375,000 [=$1,875,000], and Gutta to France increased by £35,000, while "there was an enormous decline in Gutta" shipped to Germany.

TELEGRAPHS IN THE PHILIPPINES.

THE annual report of General A. W. Greely, chief signal officer of the United States army, for the fiscal year ended June 30, 1901, contains in much detail a record of the land and submarine telegraph service for military purposes, which has developed to such an important extent since the beginning of the Spanish-American war, and the acquisition of large tropical possessions. At the date mentioned the army signal office had been concerned with the laying of about 1400 miles of submarine cable, of which 749 miles were then in operation in Philippine waters. There were also in use, at that time, 4710 miles of land telegraph lines, under military control, in the Philippine islands alone, and about 600 telegraph and telephone offices, besides the telegraph communication in Cuba, Porto Rico, along the United States coast, and so on. A point of special interest is that all the equipment involved is of American manufacture, and installed by American engineers.

It is pointed out that the Philippine group has twice the area of the British islands, and almost the area of the Japanese empire, the extreme distance from north to south being 1000 miles. From the reports of various officers in the signal service, printed in the appendix to General Greely's report, it appears that, wherever their work has taken them, the natural resources of the islands point to great possibilities in the way of development. Hitherto enterprise of most kinds has been handicapped, without regard to other conditions, by the lack of means of communication. Before the establishment of army telegraphs, military officers at Manila could not convey orders to subordinates in the remoter southern islands, or receive reports from them, in less than two or three months. Now all the important points are connected by wire, and the service is available, or will be, for commercial purposes at the rate of 4 cents a word between the most widely separated stations.

It appears that the trading of the southern islands is carried on, not with Manila, but with Borneo and Singapore. Indeed, before the American occupation, there was almost no communication between Manila and the great island of Mindanao. The latter, by the way, is believed by the signal officers, who kept a lookout for Gutta-percha while laying cables, to be very rich in this material, and their reports confirm various statements on the subject that have appeared in THE INDIA RUBBER WORLD. Captain George O. Squier reports [March 19, 1901] that $300,000 worth of Gutta-percha had been shipped within a year from Cottabata alone, in southern Mindanao. This material found a higher valuation at Singapore, one shipment alone being stated to have yielded a profit of $30,000 to the Chinese who were concerned.

This report is embellished with fine views of cable laying operations in Philippine waters, and contains numerous data that will prove useful when the history of the cable making industry in the United States comes to be written.

ON January 4 was registered at Brussels the "Upper Congo to the Great African Lakes Co.," with 25,000,000 francs capital, to construct the projected new railway in the rubber regions of the Upper Congo country referred to in the last INDIA RUBBER WORLD—[page 126]. French capitalists subscribed 10,000,000 francs and Belgians the remainder.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE disastrous snowstorms of the early part of December, with the attendant breakdown of the telegraph wires over so large an area of the Midlands, has caused renewed attention to be paid to the subject of subterranean cables, the value of the London and Birmingham wire being strongly emphasized. It is quite unlikely, however, that the postmaster general will seek to supersede the aerial lines under his management generally by underground ones. Leaving out of account the expense, which would of course be enormous, it has to be noted that the paper insulated wire, although doing away with the great expense attaching to the use of Gutta-percha, is inferior for telegraphic purposes to the bare aerial wire, however suitable it may be for the feeble currents required for telephonic purposes. This fact has been insisted on by the department in reply to certain circles of business men who have protested against the continuance of a system which is so liable to breakdowns and their serious business consequences.

TELEGRAPH NOTES.

The news of Marconi's latest triumph has naturally excited a great amount of interest, but it can hardly yet be said to presage a condition of affairs calculated to cause the proprietors of submarine cable works to feel deep concern as to their future. However, there seems no doubt that the efforts which are being made by Marconi and by Messrs. Armstrong and Orling, the former by air and the latter by the use of earth currents, to do away with the use of insulated conductors will culminate in a revolutionized state of affairs telegraphic, and one in which the insulated cable manufacturer will play but a very subordinate part. Despite the glowing announcements which have appeared in the daily press, it is rather too soon to say anything definite as to the prospects of the Armstrong-Orling wireless telegraphy, though Mr. Armstrong expresses himself in extremely confident terms as to the untold wealth which awaits those who become financially interested in the somewhat expensive experiment that remains to be carried out. The advantage claimed for this process over that of Marconi is that hills and dales have no retarding effect; the plane surface which the Marconi system requires is no longer a necessity, and therefore its utility is unbounded and unfettered. At least this is what we are told; it may turn out that self-interest and exaggeration have combined to distort the truth and it will be as well to keep our hands folded a little longer before showing our appreciation of the latest discovery by applauding "in the usual manner."

AS only a certain number of our rubber works are run as limited companies, it is not easy to get at the exact facts relating to the condition of business as portrayed by the annual balance sheet. But in the case of more than one prominent concern, into the details of whose profit and loss account the outsider cannot peer, I am able to confirm what was foreshadowed in these notes a few months ago. This statement has reference to the interaction of reduced business and reduced price of rubber. Had rubber remained throughout 1901 at the figures of 1900, the reduced volume of trade must have had somewhat serious results, but as it has turned out, the results have proved more satisfactory than in 1900. Of course there are exceptions, but I do not think that, as a general statement, the above will meet with serious criticism. The advantages and disadvantages of carrying on a general trade in preference to specializing in one or a few articles, have more than once come up for discussion in our technical literature, and there can be no harm in saying, that in my own opinion, which is based on the present condition of the British trade, those who have the largest variety of goods with which to attract custom, are the best off. In their case, a falling off in the demand for the products of a particular department, does not spell ruin, as it may easily do in the case of a firm dependent on one branch alone. Not that by this I am advocating that those who at present are not making certain articles, should instantly commence doing so. I should be very chary of doing so, for two reasons: firstly, because the requirements in almost all branches can be easily fitted by the plant at present in operation, and secondly, because perfection in the manufacture of many classes of rubber goods has only been arrived at after a considerable expenditure of money and time. I sometimes hear manufacturers say "It is strange that I cannot make this article properly, as So-and-so seems to find no difficulty." I reply that So-and-so has, in all probability, gone through a period of probation, and at such a cost as to make him disinclined to discuss in the pages of his trade journal the tortuous way by which he eventually gained Corinth. What is desirable is not always expedient, and it is in the spirit of this maxim that I am averse to the multiplication of departments in works at the present time, though this does not at all weaken my statement as to the advantage which old established concerns are able to command from this form of procedure.

STATE OF THE TRADE.

TWO causes of litigation which were at one time of greater prominence than has of late years been the case have recently arisen. There is no object in giving the names of the parties interested, and it will be enough to say that the one case has reference to the premature decay of elastic webbing and the other to a like result in waterproof clothing. In both these cases, as in almost all those to the details of which the historical student has access, there is a conflict between the manufacturers of the textile fabric and of the rubber as to which of them is really responsible for the disaster. And the divination of the truth is not at all an easy matter in such cases, the deductions from chemical analyses being extremely liable to error. There is, however, one point on which all are generally agreed, and that is that copper salts should be absent from the dye of fabrics which are intended either for proofing purposes or to come into direct contact with rubber. As regards grease and the extent of its injurious action under dry heat or cold cure, opinion is somewhat divergent, but among those who have paid real attention to the subject there is complete unanimity on the subject of copper. Of course it is possible to engage experts who can easily bring themselves, not exactly to believe that black is white, but who find little difficulty in bringing forward evidence to support the views of their clients. But considering that the presence of copper is so generally recognized as dangerous by rubber manufacturers, and that the use of it has of this account been altogether abandoned by the cloth manufacturers by the special request of the rubber trade, the chemist who sought to show that although copper was present in a case of decomposition the fault was due to the proofing, and not to the copper, would, it seems to me, find himself somewhat in a quandary when subjected to cross-examination. Not that he might necessarily be wrong, as the proof might be of an inherently evil nature, if

LITIGATION REDIVIVUS.

the expression is permissible, but the difficulty of showing that a rubber proof is the cause of its own decay is so great that if the presence of copper in the textile fabric is demonstrated there is in the light of our knowledge of the deleterious action af even minute quantities of copper a strong probability that in the case of a trial the cloth manufacturer would come off second best. That this has not always been the case it is true but then the indictment against copper had not been so clearly made out and more loop-holes were left by which the cloth manufacturer could extricate himself from an uncomfortable position.

FIRE HOSE.

WITH regard to the interesting article in the December issue of THE INDIA RUBBER WORLD on this subject, it may not be without interest to say a word in comment. Certainly the author is quite right in deprecating the testing of a hose at pressures far higher than it is likely to meet with in practice, because this cannot but weaken it. A prominent hose manufacturer in this country says that it is quite unusual to test the bursting pressure here, because it is always far above what is required, and, moreover, such a test tells you nothing about the durability, which is an important feature. What is wanted here, he says, is for town officials to give up buying hose from plumbers or small shopkeepers, and to buy direct from the manufacturer, who sells a quality corresponding to the price, which is not at all the universal rule amongst middlemen. It is but rarely that the street main pressure exeeeds 50 or 60 pounds, so there is no object in testing up to 400 pounds. With regard to rubber-lined hose, that which is made with a joint has the best reputation, because this method of manufacture permits of better rubber being used than when the rubber is in the seamless condition. A certain amount of German and of American rubber-lined hose finds its way to Great Britain, though a complaint against the latter is that it is too heavy; that both the canvas and rubber are used in greater weight than is desirable or necessary. This is, of course, merely the expression of individual opinion, which might not be generally supported were a show of hands taken.

RECENT LITERATURE.

I DON'T know how far the average American rubber works superintendent exceeds his British confrère in his grasp of the German language, but the state of affairs here is that the British as a rule do not read German and do not intend to devote themselves to its study. Now leaving out of account the question of translation, the present position gives the Germans an advantage because their study of English is becoming more and more general. However, not to enlarge unduly on this abstract side of this topic, I may say that it is the publication in Germany of one or two books on the rubber trade and which appear to be practically unknown in Great Britain that has prompted me to the remarks in this paragraph. The tendency of the German writer to specialize and to go into minute detail is well enough known and it is therefore not surprising that the world famed press of Leipzig should have recently issued a volume entitled "Die fabrikation der Kautschuk und Leimmasse-typen, Stempel und Druckplatten; sowie die Verarbeitung des Korkes und der Kork abfälle" ("The manufacture of rubber and glue types, stamps and printing presses, also the employment of cork and cork dust.") This volume, though not on a very important branch of the rubber manufacture, yet conveys a good deal of technical information not otherwise obtainable. In the light of what has been said above it is unlikely that the book will have much of a sale in this country, though no doubt its contents would be appreciated in certain quarters. So far the general treatises which have been published on the manufacture have justified their appearance more by the special features which they present than by the novelty of their contents as a whole. For instance, in Franz Clouth's "Rubber, Guttapercha, und Balata" the botanical information is really very complete, and as far as I know the best of its kind in form of arrangement. No doubt other special volumes will follow that mentioned, though such books can hardly prove much of a gold mine to their authors.

RECOVERED RUBBER.

A FIRM doing this business now announce in their circulars the specific gravity of their product and further details concerning the content of mineral matter. It strikes me that this will involve a good deal of work if the raw product is what is bought indiscriminately as "old rubber." Where the acid process is used, as for instance in garment cutting, the amount of mineral in the resulting product depends very largely upon its solubility in acid. Thus, while zinc oxide, whiting and litharge are nearly all removed in the acid, both French chalk, barytes, silica, etc., are unacted upon, and go to swell the weight of the product. To produce a uniform article cannot be at all an easy thing, though all will be agreed that the principle of informing the buyer of the details of his purchase is a move in the right direction.

TRADE JOTTINGS.

THAT the advantage of Dermatine over ordinary vulcanized rubber for special purposes is becoming more and more recognized is clear from the increasing tendency among engineers to specify that this material must be employed. Among the most recent examples of this is the Edwards patent air pump for marine engines and the Haste patent pump; in which cases the patentees in their instructions to the makers specify the use of Dermatine.——The new works of Messrs. William Warne & Co., Limited, at Barking, near London, are now completed, and practically the whole of the firm's extensive operations are being carried on there, although the business is still being directed from the old works at Tottenham.——Some trouble seems to be in store for those responsible for the reorganization of the Dunlop tire company opposition to the proposals put forward being somewhat strong especially in the Dublin quarter.——The recent lamented death of Mr. Mathew Gray, managing director of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited, (Silvertown) removes from the rubber trade of Great Britain one of its most prominent personages and his loss will be severely felt by the firm with which he has for nearly forty years been connected. ——I understand that the labor troubles recently experienced at the works of the Leyland and Birmingham Rubber Cos., Limited, have now been settled. What has in some quarters been styled the "aggressiveness" of the Rubber Workers' Union does not appear to have been felt at all in the London district, though a different tale has to be recorded of the neighborhood which recognizes Manchester as its principal city.—— The announcement of a loss of £28,000 by the Eccles Rubber Co. has caused something like consternation among the shareholders, who had anticipated a much more favorable report as the result of the recommencement of work, though it is quite understandable that difficulty has been experienced in bringing back to the fold those whose custom was lost at the suspension of operations caused by the disastrous fire which occurred rather more than a year ago.

A RUBBER LARYNX.—The statement is sent from Paris that Dr. Claude Martin, a famous surgeon of that city, has successfully performed a delicate operation that marks an important step forward in surgical science. He has succeeded in equipping a patient with an artificial rubber larynx with a perfect glottis, the vibration of which makes the tone for speaking. For eating, an automatic shutter is appended, which protects the windpipe.

CONDITIONS OF RUBBER TRADING IN BOLIVIA.

ABOUT twenty years ago the explorations of Dr. Edwin Heath, an American, advertised to the world the navigability of the river Beni, in Bolivia, and called wider attention to the wealth of the rubber resources of that region, the development of which had been begun, on a small scale. Year by year the extent of this rubber field has become more fully known, as neighboring streams have been explored, besides which the rubber yielding trees have been found to be more plentiful there than in almost any other region, the trees produce more liberally, and the country has advantages with respect to healthfulness. But Bolivia is naturally inaccessible; to-day communication cannot be had between the Beni river and the outside world short of two or three months. Then there has been a lack of local capital, and a want of local business talent to organize the gathering of rubber on a large scale. Following close upon Dr. Heath's voyages, however, came the establishment on the Beni of European houses, on a small scale at first, but gradually developing until, to-day, millions of dollars would be required to buy out all the rubber properties and trading stations.

Among the early enterprises projected for this field was The Beni Gum Co., chartered under the laws of New York with $500,000 capital, but the rubber men from New York city who went on the initial exploring expedition became so dismayed at the outlook that they turned back before getting even a glance at the Beni—which river they never wanted to hear of again. Gradually the drawbacks to trading there have been overcome, however, and the next great development of rubber production may be looked for in the valleys of the Beni, Madre de Dios, and Orton—rivers which converge, with others, to form the Madeira, a tributary of the great Amazon. And the capital needed for this development, and the concurrent exploitation of other Bolivian resources and creation of transportation facilities, is likely to come, in large measure, from the United States.

At one time liberal profits were realized on rubber and on imported merchandise by the trading companies on the Beni, which had the effect, as the facts became generally known, of causing a rush of new traders, tempted by prospects of sudden fortune. One result was a competition to secure workers, whose conditions became more and more onerous; then to obtain transportation, both outward and inward; and, finally, to obtain rubber, some merchants going so far as to take rubber direct from the gatherers, in disregard of the rights of the employers of the latter. The buying price of rubber on the spot advanced greatly, as well as the cost of provisions, which were in no case obtainable from local sources—all these conditions contributing to produce a crisis, the effects of which have not yet been fully recovered from. Thus is to be explained, in part, a decreased output of Bolivian rubber for the past year.

Some idea of conditions on the Beni may be gained from the following comparison of the prices of provisions for various years—in francs per arroba of 25 pounds:

	1876.	1884.	1896.	1900.
Rice	4.	16.	24.	32.
Coffee	4.	24.	30.	40.
Sugar	8.	24.	30.	36.@72.
Dried meat	4.	18.	12.	36.@40.
Salt	4.	24.	30.	30.@50.
Cheese	2.40	16.	30.	56.@70.
Tobacco	8.	50.	60.	60.@70.

In 1882 the buying price of rubber on the Beni was 25 bolivianos [=$9.65] per 100 pounds. The price increased steadily, until, during 1900, from 128 to 134 bolivianos [=$49.40 to $51.72] was paid for 100 pounds of rubber. Meanwhile the London price of rubber had advanced greatly, in spite of which the Beni rubber business would have been done at a loss, but for the profits on goods sold to the rubber collectors. The freight on rubber shipped by the river to Madeira to Pará has risen to 1500 to 1700 francs [=$289.50 to $328.10] per ton of 2204 pounds, or an average of 14 cents a pound, the trip extending over 70 days. As high as $6000 francs [=$1158] per ton has been paid for goods ascending the Madeira, the trip consuming 230 days.

The more oppressive of these conditions could be remedied by the introduction of larger amounts of working capital, which would render merchants more independent of local circumstances, and also improve facilities for transportation, and this seems likely to take place in the near future.

Braillard & Co., a French house, opened a trading station in 1882 at Reyes, at the head of the Beni, to which they have added branches, and now have their principal house at Riberalta, at the confluence of the Beni and Madre de Dios rivers. Besides trading generally, they control three rubber properties: (1) "Conquista," between the Manuripi and Madre de Dios rivers, of about 656 square miles; (2) "Victoria," on the Orton river, of about 60 square miles; (3) "Rosario," on the Madre de Dios, 66 square miles,

Deves & Co., another French house, became established in 1890, also at Reyes, at Madidi, and on the Geneshuaya, a branch of the Beni. They, too, have now a house at Riberalta, and control 520 square miles of rubber concessions on the lower Madidi river, and rights over 1150 square miles of the remainder of the basin of the same river. Also an area of 1570 square miles on the river Geneshuaya.

The Orton (Bolivia) Rubber Co., Limited, with £340,500 capital, was registered in London in 1897, to acquire concessions on lands previously worked by the late Dr. Antonio Vaca Diaz, and others, on the river Orton. The difficulties encountered by the first expedition sent out by this company from Europe, including the death of Dr. Diaz, who was to be its managing director, were detailed in THE INDIA RUBBER WORLD in December, 1897, and May, 1899. The company has continued at work, however, and is an important concern.

Nicolas Suarez is at the head of another prominent house in this region, besides which there many others of secondary importance, While competitors in a general sense, the four houses here named have united in forming a company for opening roads to the southwest, with a view to better communication with Lake Titicaca and the railway running thence to Mollendo, on the Pacific coast.

There have since entered the Bolivian rubber field two companies, in which American capital is interested, and there is reason for the belief that ultimately enough money and enterprise will be found at work, in view of the steadily increasing demand for rubber, to place the rubber industry in this region upon a sound and profitable basis. It must be understood that much preliminary work of value has been done by such companies as those named above, in the way of locating good rubber fields, inducing natives to gather rubber, opening *estradas* or paths through the forests, establishing stores, building launches, entering into contracts, and, generally, creating a valuable asset in the shape of "good will."

THE RUBBER PLANTING INTEREST.

PRIVATE RUBBER PLANTING IN MEXICO.

WRITING to THE INDIA RUBBER WORLD, Mr. James C. Harvey, of the plantation "La Buena Ventura," at San Juan Evangelista, Vera Cruz, Mexico, states that his planted rubber continues to grow most satisfactorily, and that he has now nearly 150,000 trees under cultivation, besides several thousand cacao trees. "The time is drawing near," he adds, "when inquisitive people in the East will be able to satisfy their curiosity as regards the production of rubber from cultivated trees." This plantation is privately owned in the sense that the public has not been invited to take an interest in it, but there are associated with Mr. Harvey in its ownership several citizens of Los Angeles, California, where Mr. Harvey at one time lived. The management is wholly in the hands of Mr. Harvey, who is an experienced tropical planter and who makes his home on the estate.——The above is not the only example of privately cultivated rubber in Mexico, which may be worth noting on account of the prominence attained in the public mind by large companies who are offering for sale shares in coöperative planting enterprises. Mr. Maxwell Riddle, mentioned several times in this paper, assures THE INDIA RUBBER WORLD that he has visited in Mexico many private estates, owned by planters from the United States, who have the means to carry out such enterprises as they have undertaken, some of whom have been in Mexico for several years and are pleased with their success thus far, and whose principal object is the cultivation of rubber, whatever other crops they may have in hand. Mr. Riddle has an estate near San Juan Evangelista, which is the postoffice for the following planters interested in rubber: George R. Miller, Jr., Dr. W. S. Cockrell, Eugene Griffin, Harry Lane, W. R. Waite, E. A. Dorman, Drs. W. C. and W. L. Hall, M. H. Newmark, and R. A. Chadwick. Then at Coatzacoalcos are J. K. McClymonds, F. L. McFarland, Judge H. D. Barto, and O. M. Powers. William A. Clark, the Montana millionaire and the owner of a large estate near Alvarado, is planting rubber extensively, and near him are Tarr Brothers and Charles T. Wing, similarly interested but on a smaller scale. A. G. Weiss, of Chicago, has a plantation near Huimanguillo, in Tabasco, and the list could be still further extended. Willis & Trowbridge and Pearson & Leversly, both of Tuxtepec, state of Oaxaca, are said to have the largest private rubber plantations in Mexico, with the exception of Senator Clark and Mr. Weiss, above named.

ILLINOIS-MEXICO CO., OF CHICAGO.

INCORPORATED under Illinois laws; capital $30,000. Officers: George Mason, of Chicago, president; John S. Spencer, of Bloomington, Illinois, vice president and general manager; Eugene R. Cox, Chicago manager of the Barber Asphalt Co., secretary and treasurer. The other directors are E. W. Brooks, of Chicago, and E. R. Morgan, of Bloomington. The company have bought two plantations near Minatitlan, on the Coatcoalcos river, in Vera Cruz, Mexico, belonging to Roland Hughes, of Kansas City, and John S. Spencer, named above. Considerable improvement had been made on these estates, including the planting of coffee, rubber, and cacao. There are said to be 2000 six year old rubber trees and 5000 younger ones, and 24,000 coffee plants that have borne three crops. Mr. Spencer, who has been in Mexico much of the time for twelve years, and will have an important interest in the new company, is to be resident manager. It is intended to plant 300 acres in rubber this year.

MEXICAN INVESTMENT AND MANUFACTURING CO.

[Plantation at Tihuatlan, state of Vera Cruz, Mexico. Office: Society for Savings building, Cleveland, Ohio.]

INCORPORATED in 1897 under Iowa laws; capital, $5,000,000. Home office, Dubuque, Iowa; principal office, Cleveland, Ohio; branches in New York and Mexico City. Objects, the cultivation of India-rubber and other tropical growths, first in Mexico, and later elsewhere, as in the Philippines; also, to manufacture such articles as can be made profitably from plantation products. The company own what they call the Tihuatlan plantation, of 5000 acres near the town of the same name, in the Tuxpam valley, state of Vera Cruz, Mexico. The work of planting has been begun, and it is stated that the entire capital stock of the company has been subscribed for. The officers are: William Vernon Backus, of Cleveland, president; James N. Huston, of New York, late treasurer of the United States, vice president; Charles O. Evarts and M. K. Mullin, of Cleveland, treasurer and secretary.

LOS ANDES RUBBER, LUMBER, AND FRUIT CO. (NEW ORLEANS).

[Mentioned in THE INDIA RUBBER WORLD, November 1, 1901—page 45.]

THIS company has a concession from the Guatemalan government of 200 manzanas [=440 acres] of land, free of taxation for 13 years, after which it may be purchased by the company at $2.50, gold, per manzana. As soon as this tract is placed under cultivation, another may be obtained on the same terms, and so on, as long as the company may be prepared to extend its operations, to a limit of 12,500 acres already located. It was reported November 15 that 400 well grown rubber trees (*Castilloa elastica*) had been counted on the first 200 manzanas of land, besides many smaller trees; 40 manzanas had been cleared for planting; and 15,000 rubber seedlings from neighboring forests had been received, out of an order for 60,000. They were planted 200 to the manzana [=91 per acre], and the intermediate spaces are to be planted in bananas, until the rubber trees become productive.

ROCHESTER-MEXICAN PLANTATION CO.

INCORPORATED under New York laws, November 27, 1901; to deal in real estate and tropical products, including India-rubber; capital, $60,000. Directors: Charles H. Angell, John Zeeveld, and J. B. Snyder, Jr.—of Rochester, New York—and Augustus S. Pendry, of Elmira. Offices: Granite building, Rochester.

COSTA RICAN RUBBER TREES FOR THE CONGO.

H. STUART HOTCHKISS, secretary of The L. Candee & Co. (New Haven, Conn.), writes in *The Forester* an article on "The Rubber Industry of Costa Rica," in which he says: "Near Port Limon on the coast many young rubber trees are grown merely for exportation, and with no idea of tapping. These are grown among the cacao and when about a year old are cut off just below the leaves, and the stems are packed in boxes, the layers being separated by a little dry earth. The market for this queer product is, I understand Belgium, whence they are reshipped to the Congo."

* * *

THE incorporation is reported of the Orizaba Rubber Plantation Co., January 10, under South Dakota laws, at Yankton, in that state, with $100,000 capital.

THE CANADIAN RUBBER SHOE ASSOCIATONS.

ON January 21, there gathered in Toronto the rubber shoe men of Canada, comprising the leading manufacturers and jobbers, most of whom belong to the two organizations known as the "Rubber Shoe Manufacturers' Association" and the "Rubber Boot and Shoe Jobbers' Association." The manufacturers met at the Queens Hotel and spent nearly the whole afternoon in the transaction of business, Those present were: S. H. C. Miner and J. H. McKechnie. Granby Rubber Co.; J. J. McGill, Montreal, Canadian Rubber Co.; James Robinson, president, and Walter Binmore, secretary, of the Maple Leaf Rubber Co.; C. N. Candee and R. H. Greene, of the Gutta-Percha and Rubber Manufacturing Co.; A. L. Breithaupt, of the Berlin Rubber Co., and M. C. Mullarkey, Montreal, of the Boston Rubber Co. of Montreal. Price lists were rearranged, and arrangements made for the opening of the rubber season on April 1.

At the same time the rubber boot and shoe jobbers held their meeting in the council chamber of the Board of Trade building. There were about thirty members present. James Robinson, the retiring president, presided. The retiring secretary, A. B. Pickett, of Montreal, delivered a brief address on the condition of the trade, and read his annual report. The following officers were then elected: President, J. A. McLaren, Toronto; vice-presidents, W. S. Louson, Montreal; W. A. Hamilton, Toronto; R. T. Hayes, St. John, N. B.; and J. J. Kilgour, Winnipeg; treasurer, J. S. King, Toronto; secretary, J. A. Fullerton, Toronto; executive committees: For Ontario, A. McPherson, Charles Bonnick, Toronto; For Quebec, James Robinson, A. C. Lambert, Montreal; For the Maritime Provinces, W. M. Angus, E. L. Rising, St. John, N. B.; For Manitoba and the Northwest Territories, Alfred A. Andrews, A. Congdon, Winnipeg.

Incidentally, it may be noted that the meetings of the jobbers and manufacturers were really held in conjunction, and that the two associations work together in every respect. The business accomplished is briefly summarized in the following articles:

I. Business for the new season must not be solicited by Jobbers before March 3, prox.

II. The list and discounts for the coming season will be issued on March 1.

III. No discount greater than 12½ per cent. additional shall hereafter be allowed by manufacturers to Jobbers on seconds or obsoletes.

IV. No second quality goods of any description shall be cartoned.

V. An effort will be made to dispose of punched goods through the jobbing trade and manufacturers have agreed to hold no auction sale should their entire output of these goods be disposed of in this way. In any case there will be no auction sale earlier than November 10, and should such be necessary, the goods will only consist of such lines as it has been impossible to dispose of otherwise.

VI. The list of special retail accounts to whom manufacturers are allowed to sell direct shall be subject to the approval of the Association and shall consist of concerns who buy, accept and pay for at least Ten Thousand Dollars' worth of goods net during the year.

VII. All goods sold hereafter as obsolete or rejected, whether by

BANQUET OF THE CANADIAN RUBBER SHOE JOBBERS.

manufacturers or Jobbers, shall be punched with the regulation punch of the Association, which punch shall be not less than one-eighth inch in diameter.

VIII. That it is a violation of the selling agreement to send out goods on consignment and take back unsold goods at end of season.

IX. A satisfactory understanding having been reached concerning the difficulty which led to the resignation of the Boston Rubber Co. of Montreal, Limited, this concern continues its membership in the Association.

The by-laws of the Rubber Boot and Shoe Jobbers' Association were also amended as follows:

I. No member of this Association shall directly or indirectly sell rubber footwear of any kind whatever at less than the regular price list and terms set forth from time to time by manufacturers of rubber footwear in the Dominion of Canada, except as hereinafter provided.

II. Any member having unsalable lines of goods on hand may sell the same at a lower price than provided by said lists, after obtaining permission in writing from the Local Executive before such permission is granted, and all invoices of such goods shall be stamped "special" across the face of same, and notice of such permission shall be given by such local vice-president to the secretary, who shall notify all members of the association of such permission. Such unsalable lines shall, in every case, be punched with the regular punch of the Association which shall be a round hole of not less than 1/8 inch in diameter.

In the evening the delegates and guests were tendered a complimentary banquet by the rubber shoe trade of the city of Toronto, at McConkey's café. There were about 50 present, the tables being decorated in in a very artistic manner, and the dinner all that could be desired from a gastronomic point of view.

R. H. Greene, of the Gutta Percha and Rubber Manufacturing Co., and secretary of the association, read letters of regret from Montague Allen, president of the Canadian Rubber Co.; Lester Leland, vice president of the United States Rubber Co.; A. W. Stedman, of George A. Alden & Co.; C. F. Smith, of James McCurdy & Co., Ltd.; H. D. Warren, president of the Gutta Percha and Rubber Manufacturing Co. of Toronto; and W. E. Barker of the Enterprise Rubber Co.

Mr. James Acton, editor of the *Canadian Shoe and Leather Journal*, was chosen as toastmaster, and the choice was a particularly happy one. He was serious without being prosy, witty without effort, possessing in an unusual degree the faculty for brief genial introduction, and happy appreciative after comment. He made it easy for each speaker to appear at his best. After coffee and cigars, the toast "The King" was recognized by the singing of "God Save The King," with much enthusiasm. The Hon. E. J. Davis, was then introduced and in a masterly manner reviewed the present condition of Canadian industries, closing with an earnest plea for still greater progress, courage, and general commercial honesty. The subject of his toast was "Our Country," which was also responded to by Mr. Paul Jarvis, secretary of the Toronto Board of Trade. Mr. W. A. Hamilton then introduced the toast, "The Rubber Shoe Manufacturers' Association," which was responded to in an exceedingly practical and happy vein by Mr. S. H. C. Miner, of the Granby Rubber Co., Ltd,, and Mr. A. L. Breithaupt, of the Berlin Rubber Co. Mr. Alexander McPherson, of the Canadian Rubber Co., then spoke on the toast "The Rubber Boot and Shoe Jobbers' Association," introducing Mr. James Robinson, of the Maple Leaf Rubber Co., Mr. J. Daoust and Mr. J. J. Kilgour.

Charles N. Candee, of the Gutta Percha and Rubber Manufacturing Co. of Toronto, then proposed the toast: "American Rubber Interests," which was greeted by a great deal of enthusiasm and the singing of "Hail! Columbia." This was responded to by Mr. C. H. Arnold of Boston, and Mr. H. C. Pearson, editor of THE INDIA RUBBER WORLD. The toast "Retail Shoe Trade" was given by Mr. J. S. King and responded to by Messrs. S. R. Hanna and C. J. St. Leger. Mr. James Robinson introduced the toast "The Press," which was responded to by Mr. G. H. Parkes, of the *Shoe and Leather Journal*, and Mr. J. A. Fullerton, secretary of the Jobbers' Association.

The banquet was notable for the earnestness with which all present spoke, but at the same time was enlivened by stories that were greeted with gusts of laughter and songs in which all joined with the utmost heartiness. Between the toasts, Mr. J. Ruthven Macdonald entertained the banqueters with solos and recitations—instrumental music being furnished by the Napolitano orchestra.

A very pretty souvenir of the banquet was a rubber shoe lined with silk in which was served the punch. The menu was a very pretty piece of printing, done in gold and blue and ornamented with fac-similes of the brands of the six Canadian companies who manufacture rubber shoes.

SOME WANTS OF THE RUBBER TRADE.

[222] FROM a rubber jobber in Fall River: "We wish to know the name of any New York importer who has rubber sponges for sale. We understand that the goods come from Russia."——A similar request comes from a jobber at Hartford.

[223] "Can you tell us who manufactures churns for mixing rubber with benzine?"

[224] From a Western mill supply house: "I am in the market for a quantity of embossed rubber chair mats, about 58½ inches in diameter, and have been unable to learn of any manufacturer who can supply the same."

[225] From Philadelphia: "We should like to have you advise us who are the different manufacturers of covered gas tubing."

ANSWERS.

[213] THE B. F. Goodrich Co.—New York branch—write: "We manufacture a so-called 'Pure Pará Tape' which will, we believe, answer your correspondent's purpose."——George Borgfeldt & Co. (New York) refer to the Pará tape made by the Hanover (Germany) Rubber Co., and imported by them. ——The Mineralized Rubber Co. (New York) write that they are importers of Pará jointing tape, from England, whence they believe "most of the moderate quantities that are used here" have come.——A London firm has also sent in the care of this journal an answer to the same inquiry.

A MANUFACTURER ON GRADING BALATA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have been interested in your recent articles on Balata, and venture a few remarks in regard to this material. We use a little Balata in our rubber factory, but the working is not satisfactory, because there is no discrimination shown with respect to quality by the collectors or importers—that is to say, in the sheet Balata. It is sold in two forms, "sheet" and "block." The block, I understand, comes from Venezuela. The block Balata, in my opinion, is cured more evenly than the sheet, though I am not an expert judge of the material. It is my opinion, however, that if more care was taken in grading it, say making three different grades of the sheet, that a good price could be obtained for the high grade Balata, and I think the average would bring the exporter more money per pound than at the present time, coming all grades mixed, which is very unsatisfactory to the consumer. F.

January 6, 1902.

THE RECENT FAILURES IN THE RUBBER TRADE.

GEORGE WATKINSON & CO.

ON December 31 George Watkinson and Irving Watkinson, his son, individually and as partners trading as George Watkinson & Co., manufacturers of rubber boots and shoes in Philadelphia, were adjudged voluntary bankrupts in the United States district court at Philadelphia. Application for a decree to this effect was made by their attorney, Preston K. Erdman, immediately upon an attachment having been secured against the company for failing to meet three notes of about $5000 each, made by them endorsed by the Crude Rubber Co. (New York) and discounted by the latter in various banks. The Provident Life and Trust Co. of Philadelphia was appointed receiver, and Theodore M. Etting, referee. The schedules filed show liabilities of the firm estimated at $1,447,685.05 and assets at $1,048,512.44. The following appears in a statement of the schedules published in *The Weekly Bulletin*, a Boston credit paper:

There are 176 notes, running from $4691 up to $25,000, the great majority of which are for either $5000 or a little more or a little less than $5000, though ten of the number are for $10,000 each, aggregating $941,911.29, running to Flint & Co., of New York, described as follows:

"These notes were given at different times and are due at different dates. They are the promissory notes of the bankrupts to their own order, and by them indorsed and delivered to Flint & Co., for the accommodation of Flint & Co., and to cover certain sales of merchandise and advances and loans of money from Flint & Co. to bankrupts. Upon the adjustment of the account between them the bankrupts should pay about $375,000 of these notes. The remainder of them, if negotiated, should be paid by Flint & Co. The bankrupts do not know who are the holders of these notes, if negotiated."

George Watkinson & Co. have been in business since 1896, during which time a large trade has been built up in the sale of rubber footwear to retailers direct, their customers numbering many thousands. On account of the extent of their trade, and of the number of orders in hand, it is understood that Philadelphia parties will attempt to reorganize the company, and continue the operation of the plant. It is being run for the present by the receivers. Mr. Watkinson, in 1860, became a bookkeeper for Henry Elliott, a rubber shoe jobber in New York, and later became a partner; in 1871 he went to New Haven as general selling agent for the Candee Rubber Co., where he remained for eighteen years; he then organized the Colchester Rubber Co., which, in 1893, he merged in the United States Rubber Co., for which company he became assistant general manager. On the expiration of his contract with the United States company he established the Philadelphia factory.

CRUDE RUBBER CO.

THE Crude Rubber Co., of New York, went into the hands of a receiver on January 4. On the application of counsel for Flint & Co., as stockholders in the Crude Rubber Co., Judge Robert R. Prentis, of the circuit court of the city of Norfolk, Va., appointed William W. Ladd, Jr., receiver of the Crude Rubber Co. in that jurisdiction, it being a corporation under the laws of Virginia. On the same date Judge E. Henry Lacombe, of the United States circuit court for the southern district of New York, in anciliary proceedings, confirmed the appointment of Mr. Ladd as receiver. The bond of the receiver is $50,000 for each jurisdiction. Mr. Ladd was for years deputy chamberlain of the city of New York and was later an assistant corporation counsel and the personal legal adviser of Mayor Van Wyck.

It was stated by William Nelson Cromwell, counsel for Receiver Ladd and for Flint & Co., that the application for a receivership was taken in the interest of the creditors and shareholders of the Crude Rubber Co., and to prevent preferences by attachment and dismemberment of the property and assets of the company. "The company has conducted a large business in South America and in this country. The present stock and merchandise consist of rubber and bills receivable to the amount of over $3,000,000, mostly under pledge to bankers. The direct liabilities are stated at about $3,000,000, and guarantees and endorsements at about $2,000,000, of which about $800,000 is in respect of paper of George Watkinson & Co., of Philadelphia, who failed a few days ago for several millions."

The Crude Rubber Co. was chartered by the corporation court of Norfolk, Virginia, February 26, 1897, and commenced active operations in August of that year, with offices at No. 66 Broad street, New York. The company was organized with George S. Dearborn, of what was at that time the New York shipping firm of Flint, Dearborn & Co., president; Henry Earle, of the old rubber brokerage firm of Earle Brothers, vice president and general manager; Charles M. Bull, secretary; and Paul de Lacy Liebermann, treasurer. The remaining directors were Richard F. Sears, engaged in the rubber trade at Pará, and William A. Young, of Norfolk, the resident director in Virginia. The company had a capital of $1,000,000, being $600,000 preferred stock, stated to have been fully paid in cash, and $400,000 common stock, issued for good will and service contracts. The company took over the business of R. F. Sears & Co., of Pará, established in 1881, and formed connections on the Amazon with the Sears Pará Rubber Co., chartered at Norfolk, Va., July 16, 1897, with R. F. Sears president and Henry Earle vice president. Recently there were some resignations and changes; the office of president was vacant, and the board of directors comprised Messrs. Earle and Liebermann, R. C. Mackay, H. C. Potter, and Anton Declisur. In connection with the recent proceedings it was stated that the $400,000 of common stock had been retired, and that 1220 of the 6000 shares of preferred stock was held by Flint & Co., which firm consists of Charles R. Flint and his brother Wallace B. Flint.

Mr. Ladd, as receiver, took formal possession of the offices of the Crude Rubber Co. (removed some time since to No. 25 Broad street), on January 6, relieving a deputy sheriff in charge under attachments from the New York supreme court, on account of three notes made by Watkinson & Co., for about $5000 cash, indorsed by the Crude Rubber Co., and protested for non payment.

Simultaneously with the appointment of a receiver for the Crude Rubber Co., its stock of rubber, at a valuation stated at $2,000,000, was sold to the International Crude Rubber Co. This was done, according to a published interview with Mr. Flint, with the consent of the principal creditors and all parties in interest within reach. Of this amount $1,000,000 worth was sold at a concession to the United States Rubber Co., on sixty day notes. "This rubber," according to Mr. Flint, "is pledged to banks as security for loans, and this method of selling the equity in it to a solvent concern is adopted to prevent dumping a large quantity of rubber on the market at one time. The highest price possible will be obtained, for the creditors of the

Crude Rubber Co." The International gets nothing from the transaction but 1 per cent. brokerage, the rest of the proceeds going to the bankers who hold the rubber as collateral, and, in the case there is anything over, to the other creditors of the Crude Rubber Co. Attorney Cromwell stated to the press that the fact that the bill of complaint in the application for a receiver set forth that the Crude Rubber Co. owned $2,000,000 worth of rubber, whereas, as a matter of fact, the International Crude Rubber Co. has purchased that same rubber during the day, was not a conflict of statements in reality, and that no discrepancy was involved.

The International Crude Rubber Co. was incorporated in New Jersey, December 24, 1900, with an authorized capital of $30,000,000, as a means to carrying out a plan for a general consolidation of the crude rubber trade. The signatures to the incorporation papers gave little indication of the parties in interest, but a prospective list of directors was given out, including representatives of important rubber importing interests, the United States Rubber Co., and the Standard Oil Co., followed by published announcements that all of these, except such as were controlled by Mr. Flint, had withdrawn. Subsequently nothing was heard of the International company for about a year, when it was announced that it would become active, succeeding the Crude Rubber Co. as its first step. Charles R. Flint is president of the International. In addition to buying the stock of rubber held by the Crude Rubber Co., the International has also purchased its shares, so that the receiver will have nothing to do but wind up the former company's affairs. There is no possibility of a reorganization to be considered.

The appointment of a receiver as above outlined was temporary. On January 24 motion was made before Judge Lacombe to continue W. W. Ladd as permanent receiver, when an argument was made by counsel representing creditors of the Crude Rubber Co., holding claims aggregating upwards of $700,000, for the appointment of a second receiver, representing the creditors, to act with Mr. Ladd. Included in this amount was a claim of $550,000 by George Watkinson & Co., of Philadelphia, and claims of certain Philadelphia banks. Counsel expressed satisfaction with Mr. Ladd's appointment, but said that, as he represented the stockholders, they thought the creditors should also be represented. Judge Lacombe entertained the same view, and directed that papers be drawn for the appointment as second receiver of Arthur H. Masten, an attorney of New York, and submitted to him on January 31.

Meanwhile no statement of the Crude Rubber Co.'s affairs has been made public by the receiver.

According to an interview printed in the New York *Sun*, Mr. Flint said that one reason for choosing the present time to apply for a receiver for the Crude Rubber Co. was that so good a receiver as Mr. W. W. Ladd was available. Mr. Flint said that he believed that all but five of the creditors of the company would be paid in full, and that these five were not worrying, but that he failed to see how the stockholders were to get anything. Mr. Flint said that no notes of his were concerned in any way, and that the company itself had issued no notes. Two open winters and a falling market Mr. Flint gave as the cause of the collapse, which was precipitated by the Watkinson failure. The large stock had been accumulated to prevent a corner in rubber, which had been attempted some little time ago, he said.

* * *

CHARLES R. FLINT and Wallace B. Flint have resigned as directors and also as vice president and secretary, respectively, of the Export Lumber Co., organized by Mr. Flint in 1878. They are succeeded by W. A. Taft, of Boston, as vice president, and Frank J. Saxe, as secretary.

The Messrs. Flint are understood to have disposed of a part of their holdings in Flint, Eddy and American Trading Co., to Trenor L. Park and others, besides which the latter have bought $600,000 of treasury stock, thus increasing the working capital of the company and securing control of its business. Mr. Park was identified with the American Trading Co. and that name is now to be resumed by the corporation. Mr. Flint remains a director.

L. H. Lapham, vice president of the United States Leather Co., has purchased of Wallace B. Flint the latter's stock in the American-Hawaiian Steamship Co., and succeeded to the offices lately resigned by Mr. Flint. The firm of Flint, Dearborn & Co., merchants and shipping agents, has been dissolved, and is succeeded by Dearborn & Lapham, with a capital of $2,500,000. And Mr. Dearborn lately resigned the presidency of the Crude Rubber Co.

Articles of incorporation were filed with the secretary of of state at Trenton, New Jersey, on January 22, for Flint & Co., to have $5,000,000 capital. The papers were signed by August Belmont, Robert M. Gallaway, Robert Y. Hebden, George R. Sheldon, Valentine P. Snyder, Charles R. Flint and Wallace B. Flint. The object is understood to be the liquidation of certain interests with which the old firm of Flint & Co. will no longer be prominently identified, as well as to consolidate and develop certain new commercial interests.

REPORT ON THE AMAZON RIVER CABLE.

THE Amazon Telegraph Co., Limited, operating the Amazon river cable between Pará and Manáos, had a gross income during the year ended June 30, 1901, of £40,109 7*s.* 9*d.*, and total expenses of £36,468 7*s.* 10*d.* But after allowing for debenture interest and sinking fund, the net result of the year's business was to increase the company,s debit balance, now amounting to £69,173 1*s.* 4*d.* A favorable circumstance is that both traffic receipts and the payments on public subsidy increased during the year. The net loss on working was only £5404, whereas during the preceding year it reached £34,468. The growth of business had been as follows:

In 1899.....	15,000	messages of	166,000 words.
In 1900.....	20,000	" "	212,000 "
In 1901.....	41,600	" "	440,000 "

It is believed that traffic will exist whenever the company can deal with it by giving continuous communication, and the hope still prevails that this will become possible. The landline opened by the Manáos government was helpful during the year in maintaining communication during cable interruptions. A cable repair steamer was ordered built in England, at a cost of £39,200, which was expected to be ready to proceed up the Amazon during the past month to make repairs. During the business year under review, £150,000 of debentures were created, ranking in priority to existing debentures, by means of which a loan was cancelled and the company's finances otherwise put in better shape.

THE Canadian Rubber Co. of Montreal have a fire brigade of 24 men, with a hose reel and engine, which was inspected recently by the chief officials of the city fire department and highly commended. The firemen had a stream of water on within 15 seconds after the alarm was given.

THE rate for Caoutchouc over the Congo railway is 409 francs per metric ton—practically 3½ cents per pound.

SKETCH OF CHARLES R. FLINT.

THE most talked of man in connection with India-rubber interests, in this or any other country, for several years past, undoubtedly has been Charles R. Flint, of New York, long engaged, in addition to other important interests, as a crude rubber merchant, and latterly a director in large manufacturing enterprises. The fact that Mr. Flint has lately disposed of his holdings in several rubber companies suggests the present time for giving in these pages a review of his business career.

Charles Ranlett Flint was born January 24, 1850, at Thomaston, Maine, being descended from a Welsh family who settled in 1642 near Salem, Massachusetts. His father, Benjamin Flint, began business as a shipbuilder in 1837, removing in time to New York. The education of the son was begun in the Maine schools, and he was graduated from the Brooklyn Polytechnic Institute at the age of 18. Soon afterward, it is related, he was an applicant for a position in the New York shipping house of W. R. Grace.

"Do you think he can do the work we require?" some one in the house asked Mr. Grace.

"A chap with his jaw can do anything," was Mr. Grace's response, and the young man began his work.

Mr. Flint in 1871 became a partner in Gilchrist, Flint & Co., engaged in a general commission business with South America. The next year this firm was merged with W. R. Grace & Co. In 1874 and again in 1876 Mr. Flint visited South America in the interest of his firm, in the latter year establishing the house of Grace Brothers & Co., at Callao, Peru, where he remained for a year. He retired from connection with Mr. Grace in 1885, and established the firm of Flint & Co., lumber, India-rubber, and general commission merchants. In 1895 their general shipping business was consolidated with that of Coombs, Crosby & Eddy as Flint, Eddy & Co., a corporation, and in 1900 a combination was made with the American Trading Co. as Flint, Eddy and American Trading Co. This firm, with $4,000,000 capital, and having connections on every continent, is reputed to have done an import and export business of $25,000,000 in one year. Meanwhile Mr. Flint has been connected with the firm of Flint, Dearborn & Co., in the Pacific shipping trade, in which was employed, at one time at least, the largest fleet of clipper ships under the American flag.

CHARLES R. FLINT.

While still associated with the Grace firm, in 1878, Mr. Flint aided in organizing the Export Lumber Co., of which he has since been a director and vice president. In 1880 he became president of the United States Electric Lighting Co. He is president of the American Ordnance Co., a director in the American Woolen Co., a director and treasurer of the Hastings Pavement Co., and the Manáos (Brazil) Railway Co., besides being a director in other industrial corporations and in six banks and financial institutions in New York.

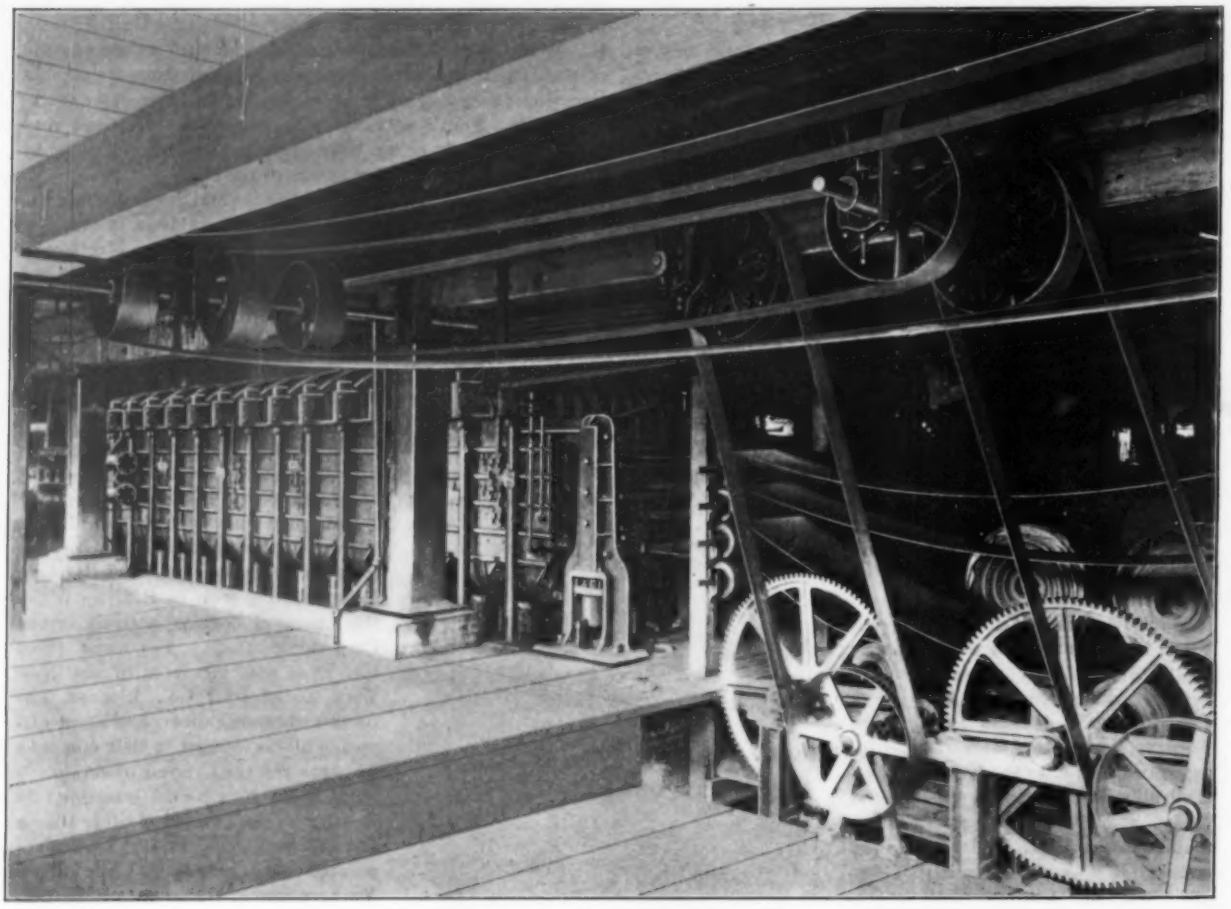
But it has been in connection with rubber interests that Mr. Flint's name has come most prominently into public view, and particularly in the consolidation of such interests. For he is preëminently an organizer of capital in industrial affairs. He was one of the first prominent advocates in America of industrial combination, achieving his first success in bringing the rubber shoe industry under a single control as the United States Rubber Co., with $50,000,000 capital, which for a time was one of the largest industrial corporations in existence, its plan of organization serving as a model for innumerable later enterprises. Mr. Flint's services as an organizer thus came into such demand that he has been described by a recent writer as being "distinctively the promoter of the day."

Besides serving as treasurer of the United States Rubber Co. for nearly ten years, Mr. Flint was active, in 1892, in bringing about the combination of interests known as the Mechanical Rubber Co., in which he served a director, and which was merged, in 1899, with a larger consolidation—the Rubber Goods Manufacturing Co.—of which he was, until recently, chairman of the board of directors. He was likewise in the directorate of three or four of the constituent companies of the United States Rubber Co., and of the American Chicle Co.—the $9,000,000 chewing gum combination. The above list, by the way, does not embrace five new industrial corporations which Mr. Flint is credited with having brought about within the past few months, involving $60,000,000 of capital.

From the inception of Mr. Flint's business career he has taken an interest in the crude rubber business. During his connection with W. R. Grace & Co. that company engaged actively in the Pará rubber trade. For some years Mr. Flint was treasurer of the New York Commercial Co., Limited, importers of crude rubber, and upon disposing of his interest in that company he organized the Crude Rubber Co.

Mr. Flint has been interested in South American affairs of other than a business character. In 1877 he was appointed consul general for Chile at New York, resigning that office on the outbreak of war between Chile and Peru in 1879. In 1884 he became consul for Nicaragua at New York, and as such represented that republic in negotiating with American capitalists to form a canal construction company. Still later he served as consul general for Costa Rica. In 1893 he fitted out, at New York, at the request of the Brazilian government, an armed fleet to suppress the navy of that republic, then in revolution.

Those who know him well consider Mr. Flint as much a sportsman as he is man of affairs. In his school days he was foremost in every kind of athletic sports, and he has lost none of his early love for outdoor exercise. It was long well known that every Saturday was his day of rest, devoted to shooting, fishing, or yachting, no matter what the demands of his business might be. He is a member of the New York, Seawanhaka, Larchmont, and Atlantic yacht clubs, and was one of the syndicate who, with the *Vigilant*, successfully defended the America's Cup against Lord Dunraven's *Valkyrie*. Every New York newspaper has contained references to Mr. Flint's use of an automobile on the streets of this city and his success as a chauffeur. Mr. Flint is square and stocky of figure; big boned, straight shouldered, and keen eyed; with closely cropped side whiskers and thin mustache that scarcely veil the suggestion of determination that marks every feature. Mr. Flint was married in 1883 to Miss Simmons, of Troy, New York, and his home is at No. 4 East Thirty-sixth street, New York city.



A MONSTER BELT PRESS IN A RUBBER FACTORY.

A BELT press unique in many particulars, and without doubt the largest ever built, is shown in the illustration on this page. It is what is known as a five platen press, which means that four planes of belts may be stretched and vulcanized at the same time, and all under the control of one man. The bare citation of the dimensions of this giant among presses gives but a faint idea of its size or its productiveness. It is, however, interesting to note that its weight is 130 tons, or three times that of an ordinary passenger locomotive. Its length is 30 feet, and its width 50 inches, which gives a total pressure area of 500 square feet, The hydraulic pressure of each ram is 3000 pounds. The capacity of the press is 8 tons of rubber belting in ten hours, or twelve miles of 2 inch belting a day, This press was built for the Boston Woven Hose and Rubber Co., and is now running in their factory at Cambridgeport, Massachusetts.

AMERICAN RUBBER SHOES IN ENGLAND.

A DISCUSSION, in the columns of the London *Daily Chronicle*, on the relative merits of American and English leather footwear, has drawn from Henry Bolton, a London dealer in American boots and shoes, the following expressions:

"The importation of American rubber overshoes far exceeds the importation of boots and shoes, and it is obvious that these rubbers are not intended for American boots only. There are scores of boot dealers in this country who claim to be too patriotic to buy American boots and shoes, but they all carry a large stock of rubber overshoes, which is, of course, a conclusive proof that English boots and shoes are not perfect in the respect of being absolutely waterproof."

The *India-Rubber Journal* (London), in a review of the rubber trade for 1901, remarks: "Encouraging also, to those concerned, is the gradual wearing away of British antipathy to goloshes and rubber shoes. This is owing, no doubt, to the improved elegant close fitting shapes, which are now the rule instead of the exception. The adoption of American patterns in boots has helped this section of the trade."

The United States consul at Harput, Asiatic Turkey, Mr. Norton, reports: "The value of the American shoe is thoroughly appreciated here, as hundreds of emigrants from the district are employed in the shoe factories of eastern Massachusetts. At the suggestion of this consulate, a returned ex-operative is arranging to establish here an agency for American footwear There would probably be a good demand for rubber shoes, likewise, as the Russian and German wears which reach this market are of a decidedly inferior grade."

Some American export figures on another page make interesting readlng in connection with the above notes.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED DECEMBER 3, 1901.

NO. 687,824. Soft tread horseshoe. William T. French, Greenville, Ohio.

688,041. Composite heel lift. John F. Videto, Framingham, Mass., assignor to George A. Remick, trustee, Newton Center, Mass.

688,199. Tire valve. George H. F. Schrader, New York city.

688,219. Combined metal horseshoe and pad. Elmer A. Wilcox, Chicago, assignor to the Chicago Rubber Horseshoe Co.

Design Patent.

35,373. Hot water bag. John B. Miller, Chicago.

ISSUED DECEMBER 10, 1901.

699,319. Rubber tire. Paul W. Litchfield and Frank R. Chamberlain, Chelsea, Massachusetts.

688,350. Substitute for India-rubber or Gutta-percha and process of making same. Mark Sherwin and Hans M. Mathiesen, Cambridge, Massachusetts.

688,399. Vehicle wheel. William F. Ellis and Edwin C. Davis, Springfield, Mass., assignors to the Davis Tire Co., same place.

688,688. Syringe. Walter H. Pumphrey, New York city, assignor to The Tullar Co., New Haven, Conn.

Design Patent.

35,436. Floor tiling. Joseph K. Sierer, New York city.

ISSUED DECEMBER 17, 1901.

688,881. Syringe nozzle. Russell Parker, Brooklyn, N. Y., assignor to Parker, Stearns & Sutton, New York city.

688,882. Liquid pistol. Russell Parker, Brooklyn, N. Y.

688,994. Elastic tire. Thomas Gare, New Brighton, England.

689,157. Rubber ball and process of manufacturing same. Hermann G. Berstorff and Eduard A. H. Meyer, Hanover, Germany.

689,247. Wheel tire and means for securing it on wheels. Pardon W. Tillinghast, Edgewood, Rhode Island.

689,263. Vehicle tire. Earl C. Whitaker, and Frank P. Whitaker, Providence, Rhode Island.

689,355. Atomizer. Anton C. Eggers, Brooklyn, N. Y., assignor to Goodyear's India Rubber Glove Manufacturing Co.

ISSUED DECEMBER 24, 1901.

689,590. Inflatable roller. Martin Johnson, and Eder B. Marshall, Milwaukee, Wisconsin.

689,616. Process of devulcanizing vulcanized India-rubber scrap. George E. Heyl-Dia, Warrington, England.

689,622. Compound for stopping punctures in pneumatic tires. Adolph J. Otto and Thomas J. Brennan, Pawtuckett, Rhode Island.

Design Patents.

35,470. Cushion. Christian William Meinecke, Jersey City, N. J., assignor to Meinecke & Co., New York.

5,484. Rubber horseshoe. Charles W. Bolton, Philadelphia.

Trade Marks.

37,521. Rubber packing. Henion & Hubbell, Chicago. Essentia feature, the words "Red Jacket," and the representation of the Indian chief, Red Jacket.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

21,661. Frederick Josiah Clinch-Jones, Leamington. Pneumatic tire. October 29.

21,870. William Shone, 18, Buckingham street, Strand, London. Sealing of inflatable members of pneumatic tires. October 30.

21,897. Frederick Westwood, Birmingham. Pneumatic tires. October 31.

21,925. Edward Hovendon Barlow and Archibald Francis Waldy, 25, Great College street, Westminster, London. Concentric tire. October 31.

21,930. The Self-Sealing Air Chamber Co., Limited, and Alfred Franklin, Birmingham. Improvements in tubes made of India-rubber. October 31.

21,950. Louis Ignatius Perry, 23, Southampton buildings, Chancery lane, London. Elastic tires. October 31.

21,964. Arthur Brown, 53, Chancery lane, London. Pneumatic tires. October 31.

21,998. Herbert Edward Smith, 29, Finsbury pavement, London. Method of repairing pneumatic tires. November 1.

22,309. George Edward Heyl-Dia, 6, Lord street, Liverpool. Improvements in flexible adhesive material for repairing pneumatic tires, securing surgical bandages, and the like. November 5.

22,344. Robert John Baldrey, Ootacamund, Nilgris, India. Pneumatic rubber cushion for boots and shoes. November 5.

22,393. Sidney Williams Dod and Charles Davies, 6, Lord street, Liverpool. Pneumatic tires. November 6.

22,351. Sydney Walshe, Nottingham. Pneumatic tires. November 6.

22,426. Henry John Poate and William Barber, Clanfield, Horndean, Hants. Outer cover for bicycle tire. November 7.

22,506. Frederick John Thomas and Edwin Alfred Penn, Coventry. Puncture saver. November 8.

22,744. William Philleps Thompson, 322, High Holborn, London. Improvements in the manufacture of long India-rubber tubes. [Kolner Akkumulatoren-Werke Gottfried Hagen, Germany.] November 11.

22,758. Adolphe Combanaire and Jean de la Fresnaye, 22, Southampton buildings, Chancery lane, London. Improved process for the purification of Gutta-percha. November 11.

22,819. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Improvements in elastic cushion treads for boots and shoes, crutches and the like. [Charles Freeman Brown, United States.] November 12.

22,853. Charles Edward Adolphus Esse, 6, Lord street, Liverpool Inner tubes of tires. November 12.

22,906. Alfred Dales, Manchester. Horseshoe pad. November 13.

22,951. Ephraim Ross Steinhardt, Percy Frank Burbridge, and George Bellamy, 22, Southampton buildings, Chancery lane, London. Rubber tires. November 13.

23,002. Dennis Daniel Dendy, Horndean, Hampshire. Ventilated pneumatic air pad. November 14.

23,119. William Frederick Williams, 53, Chancery lane, London. Means of securing elastic tires. November 15.

23,133. George Henry Hickson, 18, Buckingham street, Strand, London. Revolvable heel pads. November 15.

23,395. Charles Chitty, 40, Palace grove, Bromley, Kent. Improvement in fixing rubber, leather or composition tires to wheels. November 19.

23,595. Anne Jane Jackson, Weaverham, Cheshire. Automatic inflator for tires. November 21.

23,661. Morgan Leslie Tucker, 322, High Holborn, London. Pneumatic tires. November 21.

23,663. Franz Clouth, 6, Lord street, Liverpool. Improvements in methods of attaching resilient tires to wheels. November 21.

23,775. Charles Henry Wilkinson, Market place, Huddersfield. Tires for cycles, motor cars, and other vehicles. November 23.

PATENTS GRANTED.—APPLICATIONS OF 1900.

12,868. Method of attachiug pneumatic tires. Pulbrook, A., and Pulbrook, E. H., 5, Greyhound Road mansions, Hammersmith, London. July 17, 1901.

12,951. Outer cover for pneumatic tire. Marks, G. C., 18, Southampton buildings, Chancery lane, London, W. C. [McCaslin, E. W.; tire factory, Chicago, United States.] July 18, 1901.

12,966. Rubber tire. Hopkinson, J. E., Para Rubber Mills, West Drayton, Middlesex. July 18, 1901.

13,028. Method of attaching tires. Williams, W. F., 17, Great Pulteney street, Golden square, London. July 19, 1901.

13,268. Rubber tire. Thompson, W. P., 322, High Holborn, London. [Burroughs, W. E.; Brooklyn, New York, United States.] July 23, 1901.

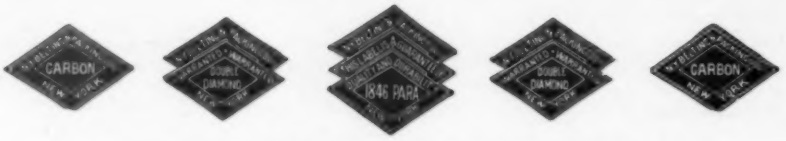
13,393. Pneumatic cushion in connection with soles of boots and shoes. Doherty, J., 34 Old Lodge road, Belfast, Ireland. July 25, 1901.

13,419. Furniture legs. Esch, J., 145, Bochum, Westphalia, Germany. July 25, 1901.

13,439. Compound felt and rubber fabrics. Bremner, J., and Warry, J. J., Liverpool. July 26, 1901.

13,813. Vaginal syringes. Bauer, M., 20 Mittersting, 20, Vienna, Austria. August 1, 1901.

13,750. Tiles and tiling. Johnson, G. W., 47, Lincoln's Inn Fields, London. [Furness, F.; No. 711 Locust street, Philadelphia, United States.] July 31, 1901.



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Belting,
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Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,

C. I. Packing,
Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.

Chicago, ...150 Lake St.
St. Louis,.....411 No. Third St.
San Francisco, 509 Market St.
Boston, ...24 Summer St.
Philadelphia, 724 Chestnut St.

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ALUMINUM,
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WETMORE,
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CLEVELAND,
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No Complaints

For the Jobber.

The Mechanical Rubber Co., Cleveland, Ohio.

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NEW GOODS AND SPECIALTIES IN RUBBER.

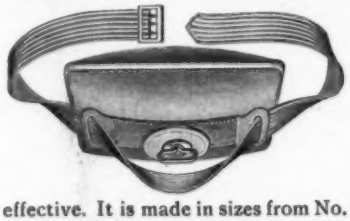
BAILEY'S RUBBER MASSAGE ROLLER.

THE cup shaped teeth which, as will appear from the accompanying illustration, form a distinctive feature of this article, are designed to have a suction effect upon the skin, with a view to smoothing out wrinkles, rounding out the muscles, and improving the circulation of the blood.

The roller is so constructed that every portion of the face and neck may be treated perfectly—even to the "crow's feet" in the corners of the eyes. A patent has been applied for. The roller is sold by retailers at 50 cents. [C. J. Bailey & Co., Boston, Massachusetts.]

WILLIAMS'S ADJUSTABLE HOT WATER BOTTLE.

A new and very practical invention, is the type of hot water bottle shown in the accompanying illustration. The very simplicity of the strap device makes the device almost faultless. The flat nozzle and the low stopper—indeed, the whole shape of the bag—make it at once cheap, strong, and exceedingly effective. It is made in sizes from No. 1 to No. 6, either in white or tan rubber. [Davidson Rubber Co., Boston, Massachusetts.]



THE "CRESCENT" HORSESHOE PAD.

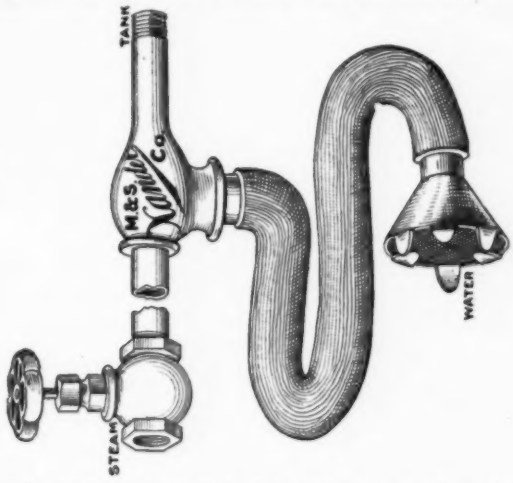
THIS combination rubber and leather pad, on which a patent has been allowed, is the invention of William Killion, a horseshoer of long experience. It is referred to as being easy fitting and neat in appearance; it does not sag at the heel or collect sand and gravel. On account of the quality of the material used the "Crescent" pad is guaranteed for durability. It is made also in special light weights for racing use, and both the standard and racing pads are made open or ventilated, as well as in the form illustrated in the cut herewith. [William Killion & Sons, No. 20 Cambria street, Boston.]

THE GAME OF "PING PONG."

A SPORTING goods concern in New York is stated to have sold $150,000 worth of "ping pong" or table tennis goods between Thanksgiving Day (in November last) and Christmas, though the game had scarcely been introduced here before that time, and its use is still confined, so far as the United States are concerned, to New York and its vicinity. The game was referred to in THE INDIA RUBBER WORLD of September 1, 1901 [page 361], as having come into vogue in England and Germany. The ball—hollow and made of celluloid—is the most important factor in the game. It is propelled by racquets, the same as in tennis, and the game is played indoors, over a table. The newspapers here have now begun to give so much attention to the game that the American public doubtless will soon become acquainted with it.

THE XANDER TANK FILLER.

THE device illustrated here is intended for filling the water tanks of steam vehicles from convenient troughs or streams along the road. About eight feet or more of rubber hose may



be used, which can be coiled when not in use and carried in any convenient place, or on top of the tank. To fill the tank by means of this device, the operator has simply to throw the strainer end of the hose into the water, and open a valve under the seat, when the water is drawn up by the vacuum created by the steam, filling the tank in a few minutes. It is not necessary for the operator to leave his seat. It is a much more convenient means than the use of a bucket. [The Xander Machine and Supply Co., Limited, Reading, Pennsylvania.]

THE BLACK "V" HEEL.

THE wearing of rubber heels now having become so widespread, a new article has been put upon the market, with the designation printed above. The manufacturers, holding that there is as much difference between various makes of rubber heels as there is between shoes, point out three particulars in regard to which they claim excellence. One is with regard to the durability of the compound used in this heel; another is that the heel, owing to the character of the compound and the construction, tend to prevent slipping even after the corrugated surface has worn away; and the third is that the material used admits of the heel taking a polish that will make it resemble the gloss on the shoe. [North American Rubber Co., New York.]

EXPORTS OF AMERICAN RUBBER GOODS.

DURING the first eleven months of 1901, compared with the two years preceding, as officially reported by the customs service:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
January-June	$300,095	$200,267	$920,334	$1,420,696
July	51,554	91,089	153,488	296,131
August	47,268	102,951	129,264	279,483
September	48,736	173,090	118,029	339,855
October	54,611	165,932	149,049	369,592
November	45,041	107,642	132,871	285,554
December	60,640	131,685	140,835	333,160
Total, 1901	$608,116	$974,018	$1,743,882	$3,326,016
Same, 1900	528,382	721,085	1,559,049	2,808,516
Same, 1899	(a)279,069	327,139	1,475,380	2,081,588

(a) Included in "All Other" prior to July 1, 1899.
[Exports to Hawaii and Porto Rico not included.]

Exports of rubber boots and shoes amounted to 2,408,776 pairs as against 1,399,285 pairs in 1900 and 621,069 pairs in 1899.

Exports of reclaimed rubber during the year 1901 amounted in value to $355,682, as against $503,282 in 1900 and $431,136 in 1899.

RUBBER GOODS IMPORTS IN THE PHILIPPINES.

VALUES officially reported for the fiscal year ended June 30, 1901, by the United States government:

FROM—	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
United States	$1,410	$1,898	$18,172	$21,480
United Kingdom	2,201	1,071	18,200	21,472
Germany	329	412	13,230	13,971
France	201	2,477	2,202	4,880
Spain	....	58	1,138	1,196
Belgium	....	294	651	945
Italy	...	....	1,237	1,237
Switzerland	....	....	1,044	1,044
Hongkong	27	437	1,740	2,204
China	....	817	466	1,283
Japan	....	6	14	20
British East Indies	191	1,614	262	2,067
Siam	....	...	30	30
Total	$4,359	$9,084	$58,386	$71,829

Exports of rubber goods from the United States to the Philippines during the preceding ten fiscal years, in value:

1891	$—	1895	$1,329	1899	$—
1892	—	1896	333	1900	4.936
1893	—	1897	—		—
1894	125	1898	—	Total	$6,723

BRITISH EXPORTS OF RUBBER GOODS.

OFFICIAL returns for the past three calendar years:

	1899.	1900.	1901.
Boots and shoes			£ 176,397
Unenumerated			1,086,238
Total	£1,388,805	£1,423,464	£1,263,238

The number of pairs of rubber footwear exported was 1,656,912. The average price was a trifle more than 2s. 1¼d., average, or 51.8 cents, American money, at par of exchange.

OFFICIAL RETURN OF CANADIAN IMPORTS.

OF crude India-rubber and Gutta-percha (free) and manufactures thereof (dutiable) during three months—July 1 to September 30, for two fiscal years:

	DUTIABLE.		FREE.	
	1900.	1901.	1900.	1901.
Great Britain	$36,920	$ 56,068	$ 54	$ 1,518
United States	97,060	130,083	623,413	378,286
Other countries	4,648	5,216	2,973	3,926
Total	$138,628	$191,367	$626,442	$383,730

NEW TRADE PUBLICATIONS.

THE current trade publications of chief interest just now happen to be the new lists of the rubber shoe companies. Not only is the date unusual for the appearance of these lists, but the revision of discounts is a matter that concerns every jobber and retailer.——As usual, a good sized bundle of catalogues comes from the UNITED STATES RUBBER CO., devoted respectively to the products of the various constituent companies. There are separate catalogues for the *American Rubber Co.*, including the "Pará" brands; *L. Candee & Co.*, with the "Federal" list; *Goodyear's Metallic Rubber Shoe Co.*, listing the "Wales-Goodyear" and "Connecticut" goods; and the *Woonsocket Rubber Co.*, including the "Rhode Island" brands. There is a separate list for the "Jersey" goods and a combined one of the "Meyer" and "Jersey" brands; also of the "Colonial" brand; together with the customary net price sheets and the like. These catalogues were prepared under the supervision of Mr. John P. Lyons, the United States company's advertising manager, who has been able, in a marked degree, to give each catalogue a distinctive appearance, and at the same time to avoid copying in any way the designs of preceding catalogues.——The 1902 catalogue of the BOSTON RUBBER SHOE CO., as usual, is distributed direct from the offices of that company, and is accompanied by the larger jobbers' list, both publications preserving the same general character which they have borne so long.——THE LYCOMING RUBBER CO. (Williamsport, Pennsylvania), also send their Annual Catalogue of Boots and Shoes from their local office.

WILLIAM MORSE & CO. (New York) have had an edition of the American Rubber Co.'s catalogue printed, with the addition of a list of other rubber goods kept in stock by this important jobbing house. [3½″×6¼″. 72 pages.]

APSLEY RUBBER CO. (Hudson, Massachusetts) have issued, under date of January 1, 1902, their annual catalogue and price list of Rubber Boots and Shoes, handsomely got up, and covering a full line of styles. [3⅜″×6″. 64 pages.]

WM. F. MAYO & CO. (Boston) issue their Catalogue No. 7 of factory damaged and out-of-style rubber footwear, listing about 25,000 cases from the various factories of the United States Rubber Co. Nearly 700 lots are offered, with net prices affixed, at a reduction of 10 per cent. or more from manufacturers' prices.——The unsold stocks of the Byfield Rubber Co. (Bristol, R. I.) have been acquired by the Messrs. Mayo, and are listed in a supplement to Catalogue No. 7.

WASHINGTON RUBBER CO., INC. (Seattle and Tacoma, Washington), selling agents for the Pacific Coast Rubber Co., issue an illustrated price list of Mechanical Rubber Goods. The company make a specialty of the Boston Belting Co.'s rubber belting, packing and hose. [4¾″×7⅜″. 52 pages.]——Also, an illustrated price list of Druggists' Sundries, embracing a wide range of goods, selected from the production of the leading manufacturers. [5″×7⅜″. 96 pages.]

GUSTAVE KUSH (No. 60 Beekman street, New York), issues a priced catalogue of Mechanical Rubber Goods, making a specialty of rubber blankets for printers' and lithographers' use. [3″×5¼. 16 pages].——He sends out also a handsome vest pocket memorandum book and calendar for 1902.

BOSTON WOVEN HOSE AND RUBBER CO. (Cambridgeport, Mass.) issue a new illustrated catalogue of their products, including not only belting, hose, and other mechanical goods, but also tires, mold work, and various "sundries." The catalogue quotes prices, and is well illustrated and printed. [6″×9″. 107 pages.]

NEWS OF THE AMERICAN RUBBER TRADE.

THE B. F. GOODRICH CO. (AKRON RUBBER WORKS).

AT the annual meeting on January 8, the resignation of H. C. Corson, of which notice had been given several months in advance, became effective. The vacancy was filled by the election of Bertram G. Work, general superintendent. The list of directors and officers now stands:

Directors.—George T. Perkins, George W. Crouse, F. H. Mason, Richard P. Marvin, Charles C. Goodrich, W. A. Folger, B. G. Work.
President.—Colonel George T. Perkins.
Vice-President.—Bertram G. Work.
Second Vice-President.—Hon. George W. Crouse.
Secretary.—Richard P. Marvin.
Treasurer.—W. A. Folger.
Assistant Secretary.—C. C. Goodrich.
Assistant Treasurer.—W. A. Means.
General Superintendent.—E. C. Shaw.
Assistant General Superintendent.—C. C. Goodrich.
Superintendent of Works.—F. H. Mason.

Mr. Corson retains an investment in the factory, and is expected to keep in touch with its affairs. During the month, however, he sailed for Europe with his family to remain several months.——Mr. Work has long been acknowledged to be one of the strongest and most capable men in the rubber industry. He has in a marked degree genuine executive ability, and a faculty for systematizing that is marvelous. After his graduation from Harvard University he entered the factory of The B. F. Goodrich Co., where his father had been superintendent, and, beginning at the bottom, worked up to the position of general superintendent by sheer ability. He keeps in close touch with rubber matters the world over, to the end that the Goodrich company, to which he is intensely loyal, may be not only abreast, but ahead of the times.

U. S. RUBBER RECLAIMING WORKS.

THIS company, which, since June 28, 1900, had been operated as a corporation under the laws of New Jersey with $500,000 capital, on December 18, 1901, filed articles of incorporation with the secretary of state of New York, the capital remaining the same. The reason for making this a New York corporation is that, after the completion of the new plant at Buffalo, the bulk of the company's manufacture will be done in this state, instead of outside, as heretofore——Work on the remodeling of the building acquired for the company's Buffalo plant has made very satisfactory progress to date. A building permit recently obtained from the city provided for additions to the building to cost $10,000.——The vacancy in the office of secretary of the company caused by the death of Mr. Max T. Rosen, on October 24 last, has been filled by the election to that office of Walter T. Rosen, a son of the former, and a member of the banking house of Ladenberg, Thalman & Co., (New York).

RUBBER SOLED LEATHER SHOE CO.

THIS company, whose factory is at South Framingham, Mass. has been reorganized, with Fayette W. Wheeler president and general manager, and G. F. Butterfield, treasurer. A building has been acquired, 45×60 feet, with seven acres of land. An extra boiler and 150 H P engine have been put in, and electric lighting apparatus. The company manufactures leather shoes to the soles of which a rubber sole and heel are attached under patents issued to George F. Butterfield. C. O. Benton has charge of the rubber department. It is planned to manufacture the leather work, also, instead of depending upon shoe factories for the same. The company now have an office at No. 73 Tremont street, Boston. They will open a retail store at No. 137 Summer street.

AMERICAN CYCLE MANUFACTURING CO.

THE incorporation of this company, to control the bicycle department of the American Bicycle Co., was noted in the last INDIA RUBBER WORLD. On January 13 directors were chosen as follows: Joseph E. Bromley, R. Lindsay Coleman, Albert A. Pope, Henry A. Lozier, and George Pope. Mr. Bromley has been elected president; J. C. Mattack vice-president; and J. A. McGregor treasurer. The offices of the company have been removed from New York to the "Crescent" wheel factory in Chicago, for the reason that four of the eight factories operated by the company are located in the latter city.

WATERPROOFING TEXTILES WITHOUT RUBBER.

JUDGE C. M. WILLARD, of Rutland, Vermont, writes to THE INDIA RUBBER WORLD that he acquired at one time a patent process for waterproofing textiles without rubber, upon which he made some improvements that are kept secret. Being 81 years of age, however, he does not feel disposed to engage personally in exploiting the business. Hence he has sold the rights for the United States, outside of New England, to parties in Chicago who will erect a large plant there. The New England rights have been disposed of on a royalty basis to Clark & Laventure, of Rutland, who will continue and enlarge the small business started in that town by Judge Willard as the New England Waterproof Co.

PICHER LEAD CO.

THE Picher Lead Co. announces that, beginning on January 1, 1902, it will offer its products to the New England rubber trade direct. The Picher products have heretofore been distributed throughout the New England territory by The Chadwick Lead Works, and their successors, the Chadwick Boston Lead Co. At the office of the company in New York, it was stated that the new arrangement was only in the natural course of events, and in line with the modern tendencies toward centralization of control.

WESTERN ASSOCIATION OF SHOE JOBBERS.

THE fourth annual business meeting at Chicago, on January 8, was well attended, as usual. Orlando C. Smith, president of the Smith-Wallace Shoe Co. (Chicago), was elected president of the association for the fourth term, and S. W. Campbell, No. 243 Franklin street, Chicago, was elected secretary. The list of vice presidents represents ten states. The discussions related to a wide range of topics, not the least in interest being that of maintaining prices on rubber footwear. The fourth annual banquet was held in the evening, at the Grand Pacific Hotel, with President Smith at the head of the table; Erskine M. Phelps, toastmaster, at his right; and the Hon. L. D. Apsley, of the Apsley Rubber Co., at his left. The first toast, drank in silence, was to the late Charles L. Johnson, of the United States Rubber Co., who spoke at the banquet last year. Mr. Apsley was among the speakers. Among others who referred to the rubber goods trade was A. H. Andrews, of Columbus, Ohio, who said: "I do not understand why the shoe jobbers who are selling rubbers should have any hesitancy in going out and demanding a fair price or the price the rubber company has made to us on goods the coming season. There is no question but what we handle the best line of rubbers made in the world. America is exporting rubbers now to all

countries, the best fitting, the most sightly, and more serviceable than any goods made, and at a price that we can all buy and sell and make a profit at. Why should we give it away?"

UNITED STATES RUBBER CO.

A REPORT that the general offices of this company would be removed from New York to Boston was denied by President Samuel P. Colt in a newspaper interview on January 7. The company will, however, consolidate their offices in Boston, when an addition has been completed to the Converse building, in Milk street, in which the offices of the Boston Rubber Shoe Co. are located.——The Boston Rubber Shoe Co.'s Chicago office, in charge of W. C. Hecox, manager, is now located at No. 244 Monroe street, with the Chicago branch of the United States Rubber Co.——C. B. Allen, formerly in charge of the latter office, having returned to Boston, has been succeeded in Chicago by H. G. Armstrong, for some time past representing the United States Rubber Co. in Baltimore.——Recent transactions in the company's shares on the New York Stock Exchange have been as follows:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Dec. 21	3,950	20⅛	18⅛	1,500	73	68
Week ending Dec. 28	3,733	19⅛	18	364	68	67½
Week ending Jan. 5	2,900	20¾	18¼	1,510	70⅛	68¾
Week ending Jan. 12	700	19	18¼	075	69⅛	67
Week ending Jan. 19	1,900	18¾	17¾	300	68¾	67½
Week ending Jan. 26	240	14½	14	100	50⅞	50⅞

SUMMARY OF SHARE TRADING IN 1901.

CLASS.	Sales.	First.	High.	Low.	Last.
Common shares..... ...	318,038	29⅜	34	12½	14
Preferred shares.....	132,278	79½	85	47	59⅛

During the past month many inquiries have been made as to the effect upon the United States Rubber Co. of certain failures in the rubber trade. The statement has been authorized at the company's office that the business of the company was affected in no sense, except that the opportunity was availed of to purchase an important quantity of crude rubber at a concession from prevailing prices. This was regarded as a benefit rather than an injury.

RUBBER SHOE SOLES FOR CHINA.

ACCORDING to the Akron (Ohio) *Democrat* a leading factory in that town has received a good order for rubber soles for shipment to China. In THE INDIA RUBBER WORLD for July 1, 1900 [page 279], Mr. C. K. Ogiwara, of the Oriental Rubber Manufacturing Co. (Tokio, Japan), suggested that, while the sale of rubber shoes was not likely to increase greatly in China, ordinary Chinese shoes, made in native shops with rubber soles, might meet a large demand, and his company, it was understood, meant to introduce rubber soles to that trade.

INDEPENDENT RUBBER CO. (AKRON, OHIO.)

THIS new enterprise was mentioned in the last INDIA RUBBER WORLD [page 120], since which time Messrs. Stark, Linn, and Dildine have sold their interest to William Dunn and Elmer Lundgreen, who will continue the business, reorganizing it under the name of the Superior Rubber Co.

BRASS GOODS FOR HOSE.

H. B. SHERMAN MANUFACTURING CO. (Battle Creek, Michigan) have purchased the Acme Brass Works (Elkhart, Indiana), and are moving same to Battle Creek, where it will be consolidated with their present plant. The line of hose brass goods formerly made by the Acme Brass Co. was up to date, all of the patterns being new, as they had only operated the plant for a trifle over eighteen months, and consists of a full line of cast hose couplings in both water and steam styles, automatic couplings, underwriters' pipes, hosepipes in all sizes and styles, sprinklers, hose caps, nipples, reducers, etc. The above line added to the present high grade specialties turned out by H. B. Sherman Manufacturing Co. will give them the most complete line of hose brass goods in the country.

HAMILTON RUBBER MANUFACTURING CO.

AT the annual meeting, at Trenton, New Jersey, on January 16, the officers were reëlected, as follows: Edward D. Cook, president; William H. Servis, vice president; Charles Howell Cook, treasurer; William L. Blodgett, secretary. A dividend was declared on the year's business, amount not stated.

WOONSOCKET (R. I.) RUBBER CO.

NOTICES were posted at the "Alice" mill on January 16, announcing a shut-down beginning Monday, January 27, with no intimation when work will be resumed. The mill employs about 1000 hands when running full, but for some time past had been running with a reduced force.——A later intimation is that the shutdown is to last until March 3. President Samuel P. Colt is quoted in a Woonsocket newspaper as saying that the company's boot mill, at Millville, is not to be closed.

BOSTON RUBBER SHOE CO.

ON January 7, Colonel Frank L. Locke became superintendent of the two factories of this company, with Walter E. Piper as assistant. Colonel Locke had long been assistant superintendent of factory No. 1, and Mr. Piper had been employed in a similar capacity at factory No. 2.——On January 13 the factories began running 9 hours a day instead of 10 hours.——The factories were closed from Monday, January 27 to the end of the week.

RUBBER GOODS MANUFACTURING CO.

THE third annual meeting of stockholders is due to be held at the company's registered office, in Jersey City, on February 10. The company is reported to have done a satisfactory amount of business during 1901, with net earnings of $1,800,000. The net sales during 1900, according to a statement made to the New York *Commercial* by William A. Towner, an officer of the company, amounted to $13,956,561.——Mr. Towner also stated that a few notes held by the Crude Rubber Co. at the time when the latter went into the hands of a receiver, were made by constituent companies of the Rubber Goods Manufacturing Co., and these would be paid when due. The Rubber Goods company would be in no sense affected by the Crude Rubber failure.——Rumors are afloat again regarding a movement to bring about a further consolidation of the mechanical rubber industry, with the Rubber Goods Manufacturing Co. as the basis. One report attributes the new activity in this direction to the holders of the shares taken over from Charles R. Flint on his retirement from the company.——Transactions in Rubber Goods shares on the New York Stock Exchange have been as follows:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Dec. 21	4,510	14	12⅛	735	49¼	48¾
Week ending Dec. 28	455	13¾	13½	....	...	....
Week ending Jan. 5	1,500	14½	13¾	675	50⅞	49⅛
Week ending Jan. 12	535	14⅛	14	400	51	50⅞
Week ending Jan. 19	840	14½	14½	495	50⅝	50⅛
Week ending Jan. 26	——	——	——	100	68½	68⅛

SUMMARY OF SHARE TRADING IN 1901.

CLASS.	Sales.	First.	High.	Low.	Last.
Common	172.631	32⅛	38¼	18	20¾
Preferred.....	18,541	87⅞	90	65	70½

THE ATLANTIC RUBBER SHOE CO.

AT a meeting of the incorporators held on January 3 the following directors were chosen: J. O. Stokes, W. J. B. Stokes, F. N. White, F. C. Lowthorp, H. J. Doughty, Henry M. Rogers, and Benjamin J. Hotchkiss. The directors elected officers as follows;

President—JOSEPH OLIVER STOKES.
Vice President—FRANK N. WHITE.
Treasurer—WILLIAM J. B. STOKES.
Secretary—FRANCIS C. LOWTHORP.
Manager—HENRY J. DOUGHTY.

Joseph O. Stokes is treasurer and general manager of the Home Rubber Co. and president of the Joseph Stokes Rubber Co. and the Trenton Rubber Manufacturing Co., all of Trenton, New Jersey. W. J. B. Stokes, his brother, is president of the Home Rubber Co. and treasurer of the other companies named, in addition to being the treasurer of the city of Trenton. Mr. Doughty has been at work for several years in the development of important inventions in connection with the rubber industry, and in their exploitation has had associated with him Mr. White. One of these inventions is the basis of the Rubber Machinery Co., Limited, which has been engaged successfully in the introduction of machinery on a new principle in important branches of the mechanical industry. Mr. Lowthorp, the other member of the official board, is an attorney of Trenton.

The Atlantic Rubber Shoe Co. have secured a plot of ground, embracing some twenty-three acres in Trenton, on the main line of the Pennsylvania railroad. The land is in the form of a triangle, one side being, as before stated, on the main line of the railroad, and another side being bounded by the Coldport branch of that road, and the third by the Assampink creek. This arrangement will allow for two railroad sidings, one of which will bring in the raw material and factory supplies, while the other will take away the manufactured goods. The company have further rented a building in Providence, Rhode Island, which is being rapidly fitted up as a machine shop for the manufacture of molds. They have also given out a contract for the building of 500 of the shoe machines. It is interesting to note that some of these machines are to be for the manufacture of lumbermen's overs and boots, and for which a number of additional patents will soon be issued.

A prospectus has been issued, inviting subscriptions to $2,500,000 in 6 per cent. cumulative preferred stock, and $7,500,000 non assessable common stock, at the company's offices. No. 80 Reade street, New York, and in the Broad Street National Bank building, Trenton.

The prospectus presents the following comparison of items bearing upon the cost to manufacture 10,000 pairs of rubber shoes daily, by the present processes, and with the use of the new machines:

	Present Process.	New Process.
Floor space required	130,000 sq ft.	45,000 sq. ft.
Cost of building, $1 sq. ft.	$130,000	$45,000
Washers, mixers, calenders	$30,000	$18,000
Engines	700 H. P.	400 H. P.
Wooden lasts	$30,000	none.
Cost maintaining lasts 1 year	$10,000	none.
Cost presses and molds	none.	$20,000
Weekly pay roll	$8,500	$3,200

IMPROVEMENTS AT LA CROSSE.

THE La Crosse Rubber Mills Co. (La Crosse, Wisconsin) have just added a large three roll calender of Birmingham make for the manufacture of surface clothing, and indeed for a variety of calendered surface goods. Heretofore all of their work has been done on spreaders, of which they have a large battery. The capital stock of the company has also been increased from $50,000 to $100,000. Further improvements at the mills are the completion of a great cistern for surplus water, with a capacity of 80,000 gallons. They have also erected a 65 foot tower, on top of which is a tank holding 35,000 gallons. Added to this is the installation of a fire pump which will throw 1000 gallons a minute. This, together with the large well and with the Niagara sprinklers, gives the La Crosse factory one of the best equipments for fire protection possible. As the mill piping is independent of the sprinkler work, it will be seen that the factory really has its own complete system of water works. The general manager, George S. Andrus, who was recently in the East, predicts that their business will be larger than ever during 1902, and that the grades of mackintoshes called for throughout the country will be much higher than in the past.

EMPIRE RUBBER MANUFACTURING CO.

AT the annual meeting, at Trenton, New Jersey, on January 15, the officers of this company were reëlected, as follows: William H. Skirm, president; George R. Cook, treasurer; W. H. Skirm, Jr., secretary.

THE HALL SECTIONAL TIRE.

THE Consolidated Rubber Tire Co. have purchased the full rights to manufacture the sectional rubber carriage tire invented by Frank E. Hall, and are now equipped to make all sizes from 2½ inches wide to 8 inches. Some of the larger sizes of tire sections are veritable giants, weighing 12 pounds apiece, and designed to go under 15 ton vehicles. It is interesting to note that during the two years in which these tires have been used, not one of them has gone out of commission.

WILLIAM WRIGHT & CO. (LIVERPOOL AND NEW YORK.)

THE dissolution is announced of this partnership, doing business as brokers at No. 176 Broadway, New York, and No. 620 Atlantic avenue, Boston. Mr. Leonard Y. Croft retires, and the business will be continued at the same places, under the same firm style, by the remaining partners, Harry Graham Wright and William F. Methuen. The American business will be carried on by Mr. A. Heathcock, who has been in the employment of the firm for some years past.

RUBBER PLANTING ITEMS.

DR. A. L. HOUSE, for five years past a practicing physician at Watetbury, Connecticut, has gone to Mexico, to engage in rubber and coffee planting. He will also act as physician and surgeon for the plantations of the Mexican Coffee and Rubber Co., the Ubero Plantation Co. of Boston, and the Isthmus Rubber Co.

=Moses Thatcher, of Salt Lake City, Utah, and a party of Chicago business men are visiting a plantation in the state of Oaxaca, Mexico, with a view to acquiring it for the cultivation of India-rubber and sugar.

NEW INCORPORATIONS.

THE Standard Rubber Shoe Co. (Chicago), December 23, under Illinois laws, to deal in rubber goods; capital $25,000 Incorporators: Walde F. Tobey, Gail Dray, George C. Maddison. Some details regarding this company were published last month [page 122.]

=T. S. Buck Manufacturing Co., December 22, under New Jersey laws, to continue the rubber stamp manufacturing business of T. S. Buck, New York; capital $100,000. Incorporators: John H. Young, George W. Landon, Frank L. Buck.

=The Diamond Rubber Co. (Akron, Ohio), as a West Virginia corporation, with $1,500,000 capital, have qualified to do business in Ohio, paying to the secretary of state fees amounting to $1500.

=The Methuen Rubber Co., January 9, under Maine laws,

to manufacture and deal in rubber goods; capital, $50,000. Richard P. Osgood, president, and John D. Osgood, treasurer, both of Methuen, Massachusetts; Benjamin G. Ward, clerk, of Portland, Maine.

TRADE NEWS NOTES.

W. G. BROWN, after a connection of some ten years with the Cleveland Rubber Works, as their Cincinnati store manager, resigned that position lately and accepted a proposition from the Whitman & Barnes Manufacturing Co., with headquarters at Akron, Ohio, to take charge of entire sales of their rubber department. He left Cincinnati on January 1 to enter into the new arrangement.

=The annual meeting of stockholders of the New York Rubber Co. for the election of trustees and inspectors of election for the coming year, was held at the company's offices in New York on January 28.

=The Hartford Rubber Works Co. have ceased to market the tires produced by The India Rubber Co. (Akron, Ohio), which company will hereafter market their own tires, together with those of the New Brunswick Tire Co.

=Frank B. Rickaby, who for nearly a year had represented the crude rubber firm of Reimers & Co. at Akron, Ohio, has resigned, to take a position with the Diamond Rubber Co. as a salesman for their reclaimed rubber. It is understood that Reimers & Co. have closed their Akron office.

=One of the largest rubber factories in the country has given an order for the rubber vacuum drying chambers advertised In THE INDIA RUBBER WORLD by Alex. P. Mende (New York), after having sent an expert to Europe to examine the drying apparatus in use there. The estimation in which this drying system is held in many other industries is shown by the duplicate orders received by Mr. Mende from different works.

=Hardman Rubber Co. (Belleville, New Jersey) distributed to their customers a printed Christmas greeting, accompanied by an attractive little souvenir, in the shape of a miniature rubber water bottle, illustrating some newly patented features, packed in a dimutive traveling bag. The whole was manufactured on the Hardman premises, including the box and the printing, indicating that their establishment has become a very comprehensive one.

=The Cable Rubber Co. (Jamaica Plain, Mass.,) are making another addition to their factory.

=It is rumored that the Preston woven tire, which has for some time been manufactured in Everett, Mass., will soon be made in a larger factory in Reading, Mass.

=A new hospital sheeting for which much is claimed is made of a fine quality of cambric coated with flexible cellulose. It is soon to be put on the market in large quantities.

=W. B. Kaiser, heretofore with the Monarch Rubber Co. (St. Louis), has become manager of the rubber department of the Giesecke-D'Oench-Hays Shoe Co., of the same city.

=G. W. Stadleman, lately with Morgan & Wright (Chicago), has become manager of sales in the solid tire department of the Goodyear Tire and Rubber Co. (Akron, Ohio), succeeding Joseph A. Burrows, who resigned on account of failing health.

=A complete outfit for manufacturing and vulcanizing rubber stamps, shipped lately by The Superior Rubber Type Co. (Chicago) to Honolulu, is said to have been the first steam vulcanizing plant ever shipped to that port.

=Henry J. Preston, an architect who has planned some large rubber factory buildings in New England, has removed his offices from No. 104 Water street to No. 8 Oliver street, Boston.

=The Sterling Rubber Co.—J. Percy Whipple, proprietor (Boston), report a very satisfactory trade during the past year and a quarter, with a marked increase in their druggists' sundries and rubber clothing departments. They have been particulariy successful with the "Sterling" infant's rubber bath tub.

=Twelve neat booklets, one for each month, a page for every day, is what the Hood Rubber Co. are sending to their friends as a remembrance, not of the *new* year, but of the whole of 1902. Most acceptable, exceedingly useful.

=F. C. Harmstad, who had been manager of the New York branch house of the S. S. White Dental Manufacturing Co. (Philadelphia) since 1881, and who entered the service of the late Dr. S. S. White nearly forty years ago, retired at the first of the year, and was succeeded by Charles Kerby, who has been connected with the Philadelphia house for twenty years. The White company, as dealers in dental supplies, have long marketed dental rubber in large quantities, and latterly have produced it at their rubber plant at Princes Bay, Staten Island, New York.

=The Kokomo Rubber Co. (Kokomo, Indiana) have taken out a new license to manufacture single tube tires under the Tillinghast patent, and the injunction proceedings brought against their Boston representative by the Single Tube Automobile and Bicycle Tire Co. will be brought to a close. The Kokomo company had declined to apply for a new license, claiming that in the past all the licensees had not respected the agreement as to prices, but their recent action indicates that a satisfactory understanding has been arrived at in this regard.

=The Brooklyn *Eagle* hears that the old rubber factory at Setauket, Long Island, is to be reopened, for the manufacture of bicycle tires.

=The Boston Rubber Shoe Co. have purchased two beds in the Malden hospital for the benefit of their employés who may be in need of the same.

=James B. Olson has been appointed manager of sales for the India Rubber and Gutta Percha Insulating Co. (New York), to succeed the late James W. Godfrey, whose assistant Mr. Olsod had been for many years.

=The National India Rubber factory, at Bristol, R. I., was reported lately to be very busy in the tennis shoe and miscellaneous departments.

=A fire on January 20 damaged the rubber goods factory of J. S. & G. F. Simpson, No. 28 Rodney street, Brooklyn, New York, to the extent of $2000.

=The Brockton (Mass.) Rubber Scrap Co., whose intended removal was mentioned in THE INDIA RUBBER WORLD for January, are still at their old location, while looking for more satisfactory accommodations.

=The annual meeting of stockholders of the American Hard Rubber Co. will be held at the offices of the company, Nos. 9-13 Mercer street, New York, on Tuesday, February 11, at 3 P. M.

=Charles A. Coe & Co., jobbers in rubber footwear in Boston, making a specialty of the "American" lines, have been succeeded by the New England Rubber Shoe Co., a corporation, with Charles W. Barnes, of the American Rubber Co., as president, and George S. Miller, lately of the United States Rubber Co.'s New York offices, manager. Mr. Coe, after having devoted thirty years to shoes and rubbers, has retired, and formed a new firm—Coe, Smith & Co., No. 158 Summer street, Boston, to engage in the sale of a new rubber vehicle tire and other specialties.

=Harry P. Coffin, who has been with Morgan & Wright (Chicago) for a number of years has severed his connection with that firm and accepted the position as manager of the eastern branch of the Calumet Tire Rubber Co. (Chicago), located on Broadway, New York city.

=The Kelly-Springfield Rubber Tire Co. (Davenport, Iowa), formerly licensees of the Consolidated Rubber Tire Co., and later operating independently and marketing tires in disregard of the Grant patent, have discontinued business.

=It is stated that at a recent meeting of the executive committee of the United States Rubber Co., figures were shown, estimating the volume of sales for the nine months ending December 31 at nearly 25 per cent. more than for the same period of 1900—the increased trading more than offsetting the lower prices which had prevailed since April 1 last.

PERSONAL MENTION.

COLONEL SAMUEL P. COLT, president of the United States Rubber Co., is named among the proposed directors of the Trust Co. of the Republic, now being organized in New York, with $1,000,000 capital and $500,000 surplus.

=Mr. Theodore E. Studley, of the Goodyear Vulcanite Co., has been elected one of the governors of the Arkwright Club, one of the leading luncheon clubs down town in New York.

=Mr. Andrew Carnegie is likely to win the regard of many rubber workers and their families, by his offer of $70,000 to the rubber manufacturing town of Akron, Ohio, for a public library building. The town has voted $7000 a year for library maintenance, which is one of the conditions of the gift, besides providing a location.

=Prominent rubber men who are now on their way across the Atlantic to take the famous Mediterranean trip are George F. Hodgman of New York, and H. C. Corson of Akron. Both of these gentlemen were to be accompanied by their wives, and be gone some months, but Mrs. Corson was not able to go, on account of her health.

=The prudential committee of the First Baptist church of Akron, Ohio, in which Mr. Corson was an active worker, gave a testimonial dinner on the evening of January 14, on the occasion of his leaving Akron. Mr. Corson spoke at the dinner on the subject of success in life, saying that willingness to work and to respond quickly to every call of duty was the first factor in winning success.

=Recent visitors to Boston from Canada were S. H. C. Miner, of the Granby Rubber Co., and J. J. McGill, of the Canadian Rubber Co. of Montreal.

=The Editor of THE INDIA RUBBER WORLD is in receipt of a beautiful New Year's card from Dr. Heinrich Traun, of Hamburg,—a pleasant reminder of one of Germany's foremost rubber manufacturers.

=Mr. William A. De Long, after devoting most of his life to the crude rubber trade, has joined the ranks of the reformers. That is, he has accepted a position under the new city administration in New York—that of deputy commissioner of the department of water supply, gas, and electricity, for the borough of Manhattan—the head of which office, J. Hampden Dougherty, is an old personal friend of Mr. De Long. In 1855 Mr. De Long's business career began, in the West Indian house of Josiah Jex, then importing India-rubber in New York. Later he visited the rubber regions of Central America, and then formed the house of William Jex & Co. (New York), which went into litigation in 1886. This was suceeeded by De De Long, Mayer & Co., importers. In 1889 was organized the rubber brokerage house of De Long, Betts & Co., on the dissolution of whicu Mr. De Long became connected with the New York Commercial Co., from which he retired in 1900.

REPUBLIC RUBBER CO. (YOUNGSTOWN, OHIO.)

THE plant of this new company, organized last summer as the Mahoning Rubber Manufacturing Co., has been put in operation. A view of the buildings is given in the company's advertisement, in another part of this paper.==At the annual meeting at Youngstown, January 21, the following directors were chosen: Henry K. Wick, John C. Wick, John Tod, C. H. Booth, A. E. Adams, and M. I. Arms. The directors then elected H. K. Wick, president; C. H. Booth, vice president, and John Tod, secretary and treasurer; and re-appointed J. Edwin Davis acting manager and John S. McClurg, superintendent.==The New York branch, in charge of Willis A. Darling, manager, has been established at No. 47 Warren street.

RUBBER SHOE PRICES ADVANCED.

THE United States Rubber Co. announced a revision of lists and discounts on January 1, and corresponding changes have been made by most of the independent rubber footwear companies. The changes amount practically to an average advance of 8 per cent. over last year's schedule, or about 5 per cent. if the estimated volume of business in each line be taken as a basis of comparison. The new discounts to retailers are—

First quality (except Woonsocket and Meyer)	35@10@3
Woonsocket and Meyer	35@10@5@3
Second quality (except Rhode Island)	35@10@10@3
Rhode Island	35@10@10@5@3
Colonial brand	50@10@3

Boots have been advanced in list price from 25 to 60 cents per pair. Shoes have in some cases been advanced somewhat, the smallest raise being made on lines having the largest sale. The following figures show the net cost to the retailer of short boots, listed at $4.20 formerly, and now at $4.50, under the various discounts in force since 1900:

April 1, 1900	$2.99	February 1, 1901	$2.46
November 1, 1900	3.15	April 1, 1901	2.33
January 3, 1901	2.99	January 1, 1902	2.50

In addition to the advance in prices—which is announced to be in effect until December 1, 1902—the companies are in a position to profit from the decline in crude rubber prices, which are treated in detail in other pages of this issue.

THE DEMAND LARGE FOR OILCLOTH.

IN view of the declared intention of the new combination in the oilcloth industry in the United States to go into the export trade, the extent of the exports of British oilcloth and linoleum trades may be of interest. In 1896 British exports of such goods amounted to 23,419,000 square yards, of the value of £954,000. In 1900, they were 27,846,000 square yards of the value of £1,312,000. Exports were made to France, Germany, Holland, Belgium, Canada, Australasia, South Africa, Egypt, Turkey, South America, and even the United States. Evidently there is an important demand for these goods in countries not now manufacturing the same—a market which might prove as accessible to manufacturers in the United States as to those of Great Britain.

German official statistics for the first nine months of 1901 give the following details regarding the trade in oil cloth:

	Imports.	Exports.
Plain oil cloth.....marks.	60,000	412,000
Fancy oil cloth	650,000	1,112,000
Oil cloth fabric	56,000	5,000
Goods of fancy oil cloth	553,000	1,980,000
Total.....marks.	1,319,000	3,509,000
Equivalent, U. S. money	$ 313,922	$ 835,142

Imports of kamptulicon, linoleum, etc., for the same time amounted in value to 110,000 marks [=$26,180] and exports to 1,575,000 marks [=$374,850.]

REPORTS from Pará are that the rubber market was materially affected by the news of Crude Rubber Co.'s embarrassment in New York.

AMERICAN CONSUMPTION OF RUBBER FOR 1901.

AS indicated by the table at the foot of this page, the imports of crude India-rubber during 1901 were larger than for any preceding year. The exports to Europe were also larger, however, and there was a gain in stocks in New York. The combined deliveries to manufacturers in the United States and Canada, therefore, are stated as somewhat below the total deliveries for 1899, which thus still holds the "record." That year, however, showed a phenomenal increase over any previous consumption of rubber, and the figures for 1900 were held to indicate more nearly a normal condition of the rubber industry, and the reported increase of 2795 tons in consumption for 1901 over 1900 is evidence of a satisfactory condition of development. These figures do not embrace Gutta-percha, Balata, or the cheaper East Indian gums—all of which are taken into account in the India-rubber statistics published by the government, and by some private statisticians as well.

From the same source is obtained the following comparative statement of prices of fine Pará rubber in New York and Liverpool, for ten years past:

YEARS.	New York.	Liverpool.
1892	62½@ 74	2. 8 @2.11
1893	64 @ 79	2.10 @3. 3
1894	64½@ 73	2. 9 @3. 1
1895	70 @ 81½	3. 0¼@3. 4¼
1896	71 @ 85	3. 0⅛@3. 8¾
1897	79½@ 89	3. 5 @3. 9
1898	82 @1.06	3. 7½@4. 5
1899	91 @1.10	3.10 @4. 7¼
1900	83 @1.11½	3. 8½@4. 9
1901	76 @ 95	3. 4 @3.11½

The figures in the next table, showing the extent of the world's visible supplies of rubber on January 1, 1902, have been derived from the Messrs. Morse's tables, though they are given on this page in pounds instead of tons, in order that they may be compared readily with former tables:

	Pounds.
Stocks in the United States	3,133,760
Pará grades	1,061,760
Central American and Caucho	71,680
African and East Indian	2,000,320
Stocks in Europe	7,492,800
Pará grades	3,001,200
All other	4,491,600
Stocks Pará grades at Pará and afloat	4,401,600
Total	15,028,160
Total, January 1, 1901	16,616,320
Total, January 1, 1900	10,251,480
Total, January 1, 1899	10,215,440
Total, January 1, 1898	9,920,960
Total, January 1, 1897	10,673,600

The next table analyzes the imports of crude rubber into the United States by grades, the figures denoting tons:

YEARS.	Fine Pará.	Coarse Pará.	*Centrals.	African and E. I.	Total.
1893	7,444	2,916	2,370	3,690	16,420
1894	6,839	2,614	2,309	2,881	14,643
1895	7,121	2,767	2,307	3,987	16,182
1896	6,515	2,706	1,807	3,303	14,333
1897	7,556	2,935	2,404	4,776	17,671
1898	6,804	2,935	3,003	5,878	18,620
1899	8,622	3,876	3,440	7,157	23,095
1900	8,079	3,906	3,020	5,463	20,468
1901	9,304	3,838	2,927	7,139	23,208

[* Including Caucho and Pernambuco.]

The percentage of fine Pará as compared with the whole imports increased slightly in 1900. The percentage for nine years has been: 45¼ in 1893; 46¾ in 1894; 44 in 1895; 45⅝ in 1896; 43¾ in 1897; 36½ in 1898; 37¼ in 1899; 39⅛ in 1900; 40 in 1901.

RUBBER EXPORTS FROM PERU.

THE German vice consul at Iquitos reports shipments of rubber from that port and from the Javary river territory in Peru during 1900 as follows:

GRADES.	Iquitos.	Javery.
Jebe, fine ..... pounds	653,021	823,055
Jebe, medium	48,374	20,515
Jebe, coarse	314,582	210,256
Caucho	180,310	88,737
Caucho, sernamby	694,232	19,725
Total	1,890,519	1,162,288

Of the Iquitos exports, 1,268,553 pounds went to Havre and 621,966 pounds to Liverpool. The vice consul gives average prices in Peruvian soles per arroba [=15 kilograms], which, converted into equivalents of United States money per pound at the average rate of exchange for each period, gives these results:

GRADES.	1899.	1 Half 1900.	2 Half 1900.
Jebe, fine ..... cents	67.6	67.	60.2
Jebe, medium	63.7	62.7	51.7
Jebe, coarse	55.7	54.8	42.
Caucho	39.8	39.1	28.
Caucho, sernamby	57.	54.8	42.

The volume of exports in 1899 from the regions mentioned is not given, but it appears that in spite of lower prices, the total value was greater in 1900. The figures are 3,783,185 soles in 1900 and 2,889,402 soles in the preceding year. This is stated to be due to the fact that a larger proportion of fine rubber was gathered in the latter year, more people having become interested in this industry, since the decline in Caucho production on the Ucayali river, which supplies the Caucho shipped from Iquitos. The rubber known locally as "Jebe" is "Pará" rubber—the product of the *Hevea* trees.

CONSUMPTION OF INDIA-RUBBER BY THE UNITED STATES AND CANADA (IN TONS).

[From the Annual Statistical Summary of ALBERT T. MORSE & Co., New York.]

DETAILS.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Imports to United States	13,033	13,554	12,942	14,263	16,152	15,347	16,420	14,643	16,182	14,333	17,671	18,620	23,095	20,468	23,208
Exports to Europe	201	268	116	231	982	491	714	391	324	500	250	150	300	450	680
Net Imports	12,832	13,286	12,826	14,032	15,170	14,856	15,706	14,252	15,858	13,833	17,421	18,470	22,795	20,018	22,528
Add Stock January 1	1,700	1,674	1,609	746	1,260	1,086	1,217	1,037	1,420	558	641	744	591	712	1,198
Aggregating	14,532	14,960	14,435	14,778	16,430	15,942	16,923	15,289	17,278	14,391	18,062	19,214	23,386	20,730	23,726
Less Stock end of year	1,674	1,609	746	1,260	1,086	1,217	1,037	1,420	558	641	744	591	712	1,198	1,399
Deliveries to Manufacturers	12,858	13,351	13,689	13,518	15,344	14,725	15,886	13,869	16,720	13,750	17,318	18,623	22,674	19,532	22,327

HEARD AND SEEN IN THE TRADE.

THE gradual decline in crude rubber prices for a year or more past has not been accompanied by a corresponding decline in the cost of reclaimed rubber. "The reason is that crude rubber and reclaimed stock do not enter into competition," said a dealer in old rubbers. "When I first engaged in the business I supposed some relation to exist between crude rubber and reclaimed rubber prices, but I soon learned better. The price for crude rubber is governed by the laws of supply and demand. The same thing is true of rubber scrap, and of reclaimed rubber. If there should happen to be a very substantial and long maintained decline in crude rubber prices, it might have the effect of increasing consumption in some lines, and this might increase the demand for reclaimed rubber. But in such case, instead of reclaimed rubber prices falling, in harmony with crude rubber prices, they would advance, on account of the increased demand. But in fact the consumption of crude rubber is not regulated by price. When a demand exists for rubber footwear, for instance, the manufacturers are going to meet it, regardless of the price of crude rubber. But no matter how low rubber may be, it will not lead to an increased sale of rnbber shoes if the weather is not such as make the people want such goods."

* * *

THERE isn't anything much more misleading than a comparison of the "capital" of different concerns in a given line of business. One company may operate wholly on its own money and other resources, while another works largely on borrowed capital; one reports only the original investment as "capital," while using in addition a large accumulation of profits, in the shape of surplus; and there are companies which have an "authorized capital" far in excess of what has actually been paid in. Clearly a comparison of the stated capital of companies cannot give much idea of their actual worth. The last reported sale of shares of one large rubber manufacturing concern was at $228 per $100 share, which indicates that in reporting their capital of $1,000,000 at par, they are far from advertising their full strength.

* * *

A RECENT visitor to the offices of THE INDIA RUBBER WORLD asked for the names of some rubber manufacturers.

"In what branch?" he was asked, for the rubber industry in the United States is widely diversified.

"Oh, any good factories will do. I am a chemist, with a new rubber substitute to sell, and I don't know anybody in the rubber trade."

"Haven't you had it experimented with by any practical rubber manufacturer or superintendent?" the visitor was further asked.

"Not yet. The substitute has only just been perfected, and it is the best in the world."

The discoverer of the "best rubber substitute in the world," who had successfully guarded his secret from all rubber men, left his card behind him, and the name it bore has appeared since in the list of persons to whom patents have been granted at Washington. The "best rubber substitute" now has governmental protection.

* * *

AS has been remarked before in this page, so-called rubber substitutes are pretty certain to originate in the hands of persons whose knowledge of India-rubber is nearest to *nil*. A more recent visitor, also an avowed chemist of experience, is confident of being able to produce a "substitute" that will absolutely replace rubber in industry, possessing elasticity, insulating properties, the quality of being waterproof, and all. He, also, has not taken the trouble as yet to become acquainted with the practical side of rubber working.

* * *

THERE doesn't seem to be much respect shown for rubber tire patents on either side of the Atlantic. To use a time dishonored rubber "joke," they certainly are "elastic." It is not long since an official of the Dunlop Tire company in England announced that the company had not earned the profits which they had anticipated, because their patents had not protected them from competition. Within a year they had been involved in 162 cases of litigation growing out of alleged infringements. And here comes an American tire company whose chief assets consists of patents, advertising a list of thirteen rubber manufacturers against whom they will proceed "in due season," to bring suits for infringement. But the making of tires doesn't seem to stop.

* * *

"WE have developed some pretty good features in tire making," said the president of a rubber company lately, "that we have been advised were patentable, but we prefer not to seek any protection for them from the government. It costs too much to protect patents."

* * *

"THE increased demand for Balata, and the advance in prices as compared with former years," said a member of the trade in New York, "is due to the great consumption of Gutta-percha within the same period. The only thing that can lead to an important consumption of Balata is a high price for Gutta-percha, the best substitute for which is Balata. There has been, during the past two or three years, an exceptionally active period in submarine cable building. There is a British Pacific cable under way, a contract is being executed for an American cable to Hawaii, and cables have been laid recently from England to South Africa and thence to Australia, besides two additional cables across the Atlantic. But such activity cannot continue indefinitely; the commercial necessity for many more cables of such lengths will not exist for years to come. With the pressure of this unusual demand for cables removed, Gutta-percha prices may be expected to decline, and with it the resumption of the use of Gutta-percha for which Balata has been coming into use. At the same time, the output of Balata has been increasing enormously. It is safe to predict, therefore, lower prices for Balata before they will be higher."

* * *

IT is only a few years since the rubber horseshoe pad was considered a good deal of a luxury, and there are very few in the rubber business who believed that the trade would amouut to very much. With the increased use of asphalt for city streets, the business has, however, grown very large. A conservative estimate places the number of pads sold in New York city daily, at 1000 pairs and in the whole United States, at about 20,000 pairs. These pads last, as a rule, about a month, and they certainly appear to be of great benefit to horses. The business as a whole, from a manufacturer's standpoint, is said to amount to about $4,500,000.

* *

WHATEVER the character of the weather, it is certain to please somebody in the rubber industry. The Akron *Democrat* of November 1 said: "Local rubber men are not averse to a long continuation of the present dry, pleasant weather. It means that much less rubber will go into boots and overshoes and that the price of rubber may therefore be reduced—that it will not be advanced because of the great demand, at least." The rubber shoe people have since had reason also to be pleased.

RUBBER NOTES FROM EUROPE.

AT the annual meeting of the India Rubber, Gutta Percha and Telegraph Works Co., Limited (London), December 17, it was stated that the total of the trading had been only slighter than for the previous year. The profit had not been so large, though the board felt that they had no great reason to complain. The always increasing competition in the various lines of manufacture in which the company was engaged called for the adoption of the best existing machinery and conveniences, and the company's works were continually undergoing alteration, by which means it was hoped to maintain the reputation which the company enjoyed for the excellence of its manufacture.

=At the above meeting reference was made to the death, which occurred on December 16, of Mr. Matthew Gray, who for many years was managing director of the Silvertown company. Born at Lanark, Scotland, in 1821, Matthew Gray served an apprenticeship in an engineering works at Glasgow, and at the age of 19 he went to London to study marine engineering. Later he became manager of a cotton factory in Glasgow and made many important inventions. He was interested in the laying of the first submarine cable in South American waters, in 1866, in January 1 of which year he became managing director at Silvertown—a position which he retained until his recent retirement on account of age. He manifested a marked degree of ability, which contributed largely to the growth of this important establishment. The directors of the company passed a vote of condolence to the family of Mr. Gray.

=James McKinlay, of the buying department of the India Rubber, Gutta Percha and Telegraph Works Co., Limited (Silvertown, London), died recently, in his seventy-fourth year. It is stated that for 34 years, the millions of money spent by this company in wages and for raw material had passed through his hands or been disbursed under his supervision.

=Michelin & Cie., leading rubber manufacturers in France, have established a branch house at Manheim, for the sale of their goods in Germany, of which Edouard Etienne Michelin is manager. The house of Michelin, with factories at Clermont-Ferrand, dates from 1832; their capital is now 2,000,000 francs; they are the manufacturers of the widely known "Michelin" pneumatic tires.

=The Aktieselskabet den Norse Remfabrik [The Norwegian Belt Factory Stock Co.], at Christiana, is mentioned as manufacturing Balata belting in addition to leather, hair and cotton belts.

NEW RECLAIMED RUBBER FACTORY.

"A SHORT time ago," says the *Gummi-Zeitung* (Dresden), "we had the pleasure to see with us Mr. Ernest E. Buckleton, who is regarded in the rubber industry of America as an experienced authority. At present Mr. Buckleton is traveling on the continent, to interest the rubber manufacturers for a new kind of reclaimed rubber, which, according to the samples this gentleman carries, represents most decidedly the best product of this kind, which we have seen so far. Presumably the manufacturing is going to be taken up in England this year on a large scale, and we shall then have more to say about it to our readers."

A BRANCH OF FRANKENBURG'S IN GERMANY.

THE firm of I. Frankenburg, Limited (Manchester, England), have established in Hamburg, Holstenhof, Kaiser Wilhelm strasse, a factory of rubber-cloaks for ladies and gentlemen. The firm have resolved upon establishing a factory on German territory, in order the better to produce goods adapted to German taste and design. The management of this factory has been entrusted to Mr. Bock, who is well known in the business. The representation for Berlin has been accepted by Gustave Strelitzer, Charlottenburg, 94, Uhland strasse, also a gentleman familiar with the business for years.

THE GERMAN OXYLIN WORKS.

AT an extraordinary meeting of shareholders of the Oxylin-Werke, Aktiengesellschaft, of Piesteritz, Germany, held in Leipsic on December 30, it was resolved to reduce the capital from 1,000,000 marks to 250,000 marks, and to issue simultaneously preferred shares to the extent of 500,000 marks, for the purpose of meeting the company's debts and providing working capital. To further increase their funds, mortgages have been placed on the company's plant, which is insured for 1,200,000 marks. The company will be known in future as the Gummi-Werke "Elbe," Aktiengesellschaft. It will manufacture technical goods and hospital sheeting, in which lines the company began the new year with very considerable orders at satisfactory prices.

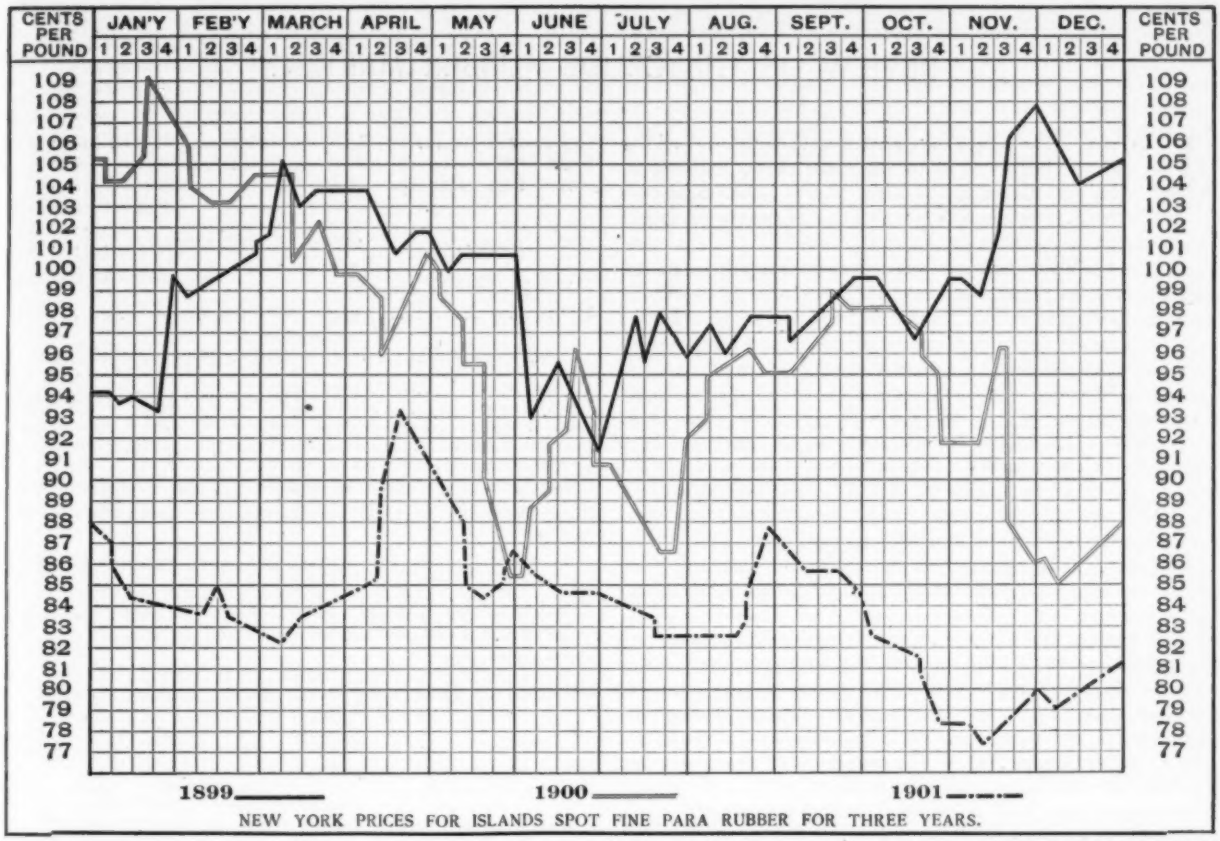
"CONCURRENT RUBBER."

THE term "rubber substitute," applied to the great variety of materials that are used as admixtures or fillers in the manufacture of India-rubber goods, is evidently a misleading one. A substitute is understood to "take the place of," and "answering the same purpose." There is no such substitute existing, and it appears safe to say that it never will be possible to produce by artificial means a substance that will take the place of India-rubber, possessing the wonderful qualities of the natural gum, its astounding elasticity and resiliency, waterproof, acid proof, insulating and other qualities. The term "Concurrent Rubber" adapted lately by Mr. Junius Nagel, of New York, for his very interesting new product, is much nearer to reality. "Concurrent" means "contributing to the same effect, acting in conjunction, agreeing, uniting with."

Mr. Nagel is the inventor of the well-known "Interior Conduits" (system of insulating tubes that are similar to hard rubber), a variety of asbestos and other new products, insulating materials, etc. According to the inventor no other artificially prepared substance so nearly resembles India-rubber. Its expansion reaches about four to five times its original volume, while its resiliency—though not acting instantaneously—is remarkable. It will mix and vulcanize with India-rubber, but may also be used independently for insulating electric wires, the manufacture of insulating tape for waterproofing, and the like. It contains no sulphur, rubber shoddy, or any foreign admixture; can be manufactured in any degree of hardness or softness, and its price is comparatively low.

"Concurrent rubber" is not one of the so called "oil substitutes," which in most cases are composed of vegetable oils. It may be stated nevertheless, that there is used in it about 20 per cent. of linseed oil, the balance being gums, etc. The linolein, however, owing to a peculiar process, is decomposed and is converted into linoleic anhydride and linoxyn. It is not considered advisable, that more than 20 per cent. to 25 per cent. of "concurrent rubber" should be admixed in the manufacture of first-class rubber goods; consequently, in this case, the linseed oil derivatives contained in the whole compound, will not amount to more than 4 to 5 per cent.

Finally it may be mentioned that "concurrent rubber," although a new article, has been tested and tried by a number of prominent rubber manufacturers, who report satisfactory results.



NEW YORK PRICES FOR ISLANDS SPOT FINE PARA RUBBER FOR THREE YEARS.

Copyright, 1902, by H. A. Gould.

A CARD.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Our attention has been drawn to the fact that you published in your issue of January 1, in the notes from your regular correspondent in Great Britain, the following paragraph:

I understand that proceedings are being taken by E. G. Wood, of the patent Self Gripping Fabric Tyre against the "Radax" tire of Manchester, and the Swain Tyre Co., of Horwich, for alleged infringement.

In your next issue we request you to withdraw this statement, and apologise for having issued same, for it is entirely without foundation, and, unless you do this, we shall immediately take legal proceedings against you. Yours truly,

THE SWAIN PATENTS SYNDICATE, LTD.,
WALTER SWAIN, Managing Director.

Horwich, Lancashire [England] January 21, 1902.

KING LEOPOLD SELLING RUBBER?

A FUNNY story reaches us from Paris. At a recent exhibition of motors and motor tires the King of the Belgians paused for a moment at the stand of the maison Talbot to watch the work of a new lever for putting on pneumatic tires, and incidentally asked the representative where their rubber was obtained. As the company sell all sorts of goods the answer naturally was, "From all parts." His majesty then said: "You would find the Congo Free State rubber good," and counselled the making of purchases for the continent at Antwerp instead of at Liverpool. When he had left the stand a spectator, with the true Parisian shrug of his shoulders, approached the representative and said: "Well, when the king wants a place he can always find a good one as commercial traveller for he pushes his articles at all times."—*The India-Rubber Journal.*

ERNEST L. BALDWIN, formerly vice president of the Diamond Belting and Packing Co. (New York), having resigned, has accepted a position as selling agent for New York and vicinity, for the Voorhees Rubber Manufacturing Co. (Jersey City, N. J.). Mr. Baldwin has opened an office at No. 150 Nassau street, New York, and is pushing the Voorhees goods with characteristic energy and success.

WEISE & Co., India-rubber and Gutta percha merchants, advise THE INDIA RUBBER WORLD, that Mr. Jacob Musly, who has had powers of procuration for several years, was admitted to their firm on January 1.

THE International Wheel, Tire and Rubber Manufacturing Co. have been incorporated in New Jersey, with an authorized capital of $3,000,000. Parties at New Brunswick, New Jersey, are among the signers of the papers.

THE DUNLOP PNEUMATIC TYRE CO., LIMITED (London and Birmingham, England) send us a new and very handsome edition of "All About Dunlop Tyres," issued for the year 1902. The distinctive features of the Dunlop tire are well set forth, with the plentiful aid of illustrations. [4⅞"×7¼". 44 pages.]

REVIEW OF THE CRUDE RUBBER MARKET.

EARLY in the month the embarrassed condition of an important importing house was made known, with the result that the market has since been in an unsettled condition. The house in question having held larger stocks than had generally been supposed, the trade naturally became concerned to know how speedily this surplus might be placed upon the market. In one sense the stocks referred to were in strong hands, but banks holding rubber to secure advances do not necessarily have the same incentive as a merchant to hold surplus stocks with a view to sustaining the market. It appears, however, that the policy has been pursued of gradual liquidation, so that, while a lower level of prices is to be reported, the decline is less than might otherwise have resulted. The attitude of manufacturers, however, would indicate the hope, on their part, that still better terms may yet be had, in which they are encouraged by the fact that all predictions of a midwinter falling off in receipts at Pará have failed of realization. Up to January 28 arrivals there, for the crop year, had amounted to 15,614 tons, against 13,735 tons up to February 1 last year.

Whatever motives may have led to the recent accumulations of rubber—much of it at high prices—the effect of the business failure which followed will be again to discourage, for awhile at least, the idea of "cornering" rubber. While it is true that the production is in many ways restricted, and can be extended only by slow degrees, while the consumption seems ever on the increase, yet higher prices somehow have the effect always of bringing more rubber to market, and lower prices the opposite effect. This fact operates as a certain safeguard against an unlimited inflation of prices by control of stocks. It is a fact, too, which an experienced trader might be expected to consider before buying laagely, at prices already abnormally high, a commodity which shrinks so rapidly in volume as rubber, and the expense of storing which is so heavy.

In dealing with the stocks of Pará rubber in the United States at the beginning of the year, the annual review issued by the Henry A. Gould Co., gives a much larger estimate than has been usual in the trade, based upon the holdings of the firm whose recent embarrassment is referred to elsewhere—866 tons larger in fact, than reported in other channels. The difficulty is admitted, however, of deciding how the rubber in question should be allotted as between importers and consumers—so that the amount really to be reckoned with in market values remains to be defined.

Centrals are taken readily on arrival at New York, but Africans are in less demand, as is to be expected whenever coarse Pará is obtainable at the existing prices.

New York quotations on January 30 were:

PARÁ.		CENTRALS.	
Islands, fine, new	75 @76	Esmeralda, sausage	51 @52
Islands, fine, old	77 @78	Guayaquil, strip	50 @51
Upriver, fine, new	76 @77	Nicaragua, scrap	51 @52
Upriver, fine, old	78 @79	Mangabeira, sheet	40 @41
Islands, coarse, new	47 @48		
Islands, coarse, old	@	AFRICAN.	
Upriver, coarse, new	60 @61	Tongues	44 @45
Upriver, coarse, old	@	Sierra Leone, 1st quality	63 @64
Caucho (Peruvian) sheet	47 @48	Benguella	45 @46
Caucho (Peruvian) ball	55 @56	Cameroon ball	44 @45
EAST INDIAN.		Flake and lumps	30 @31
Assam	57 @58	Accra flake	17 @18
Borneo	36 @46	Accra buttons	46 @47
		Accra strips	51 @52
		Lagos buttons	45 @46
		Lagos strips	50 @51
		Madagascar, pinky	61 @62
		Madagascar, black	@

Late Pará cables quote:

	Per Kilo.		Per Kilo
Islands, fine	5$000	Upriver, fine	5$900
Islands, coarse	2$700	Upriver, coarse	4$300

Exchange, 11 1/16d.

Manáos advices, same date:

Upriver, fine	5$400	Upriver, coarse	3$500

Exchange 12 1/16d.

NEW YORK RUBBER PRICES FOR DECEMBER (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine	85 @87	92 @95	108 @110
Upriver, coarse	65 @66	67½@69	86 @90
Islands, fine	79 @81	86 @89	105½@108
Islands, coarse	48 @51	53 @54½	65 @69
Cametá, coarse	50 @51	54 @56	66 @70

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"During January the demand for paper was very small for the first half of the month, but during the last few days has increased somewhat, though not yet large, and present rates are 5 per cent. for the best rubber names and 5½ @ 6 per cent. for the smaller ones."

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK. Fine and Medium.	Coarse.		Total 1901.	Total 1900.	Total 1899.
Stocks, November 30. tons	508	27	=	535	579	306
Arrivals, December	747	272	=	1019	1858	943
Aggregating	1255	299	=	1554	2437	1249
Deliveries, December	794	276	=	1070	1779	839
Stocks, December 31	461	23	=	484	658	410

	PARÁ. 1901.	1900.	1899.	ENGLAND. 1901.	1900.	1899.
Stocks, November 30.	410	610	305	885	950	435
Arrivals, December	3545	3145	2600	1241	530	580
Aggregating	3955	3755	2905	2126	1480	1015
Deliveries, December.	3805	3095	2245	827	700	575
Stocks, Dec. 31	150	660	660	1299	780	440

	1901.	1900.	1899.
World's supply, December 31	4432	3660	3233
Pará receipts, July 1 to December 31	12,689	10,736	11,085
Pará receipts of Caucho, same dates	946		
Afloat from Pará to United States, Dec. 31.	*1136	450	977
Afloat from Pará to Europe, December 31	†1140	1120	826

[* Includes 58 tons Caucho. † Includes 20 tons Caucho.]

United States Crude Rubber Imports.

[FROM GOVERNMENT RETURNS.]

FROM —	1899.	1900.	1901.
United Kingdom...pounds	10,438,594	7,640,073	6,802,372
Germany	2,110,930	1,428,339	1,832,558
Other Europe	7,480,466	6,124,247	9,400,127
Central America	1,458,255	1,363,131	1,247,517
Mexico	407,237	362,960	267,565
West Indies	5,028	35,125	42,844
Brazil	29,428,103	30,571,680	33.719,709
Other South America	2,156,190	1,161,897	1,336,131
East Indies	857,536	600,306	455.870
Africa	4,106	....	....
Other Countries	62,050	49,425	48,117
Total...pounds	54,408,495	49,337,183	55,152,810
Value	$34,219,019	$28,577,789	$28,120,218
Gutta-percha imports	506,988	367,465	410,092
Value	$178,301	$142,376	$224,807

Liverpool.

WILLIAM WRIGHT & CO. report [January 2]:

Fine Para.—There has been a good demand for spot rubber at steady prices, and the tone of the market at the close is firm; Upriver 3*s.* 7*d.*, Islands, 3*s.* 6*d.* Old Upriver sold at 3*s.* 9½*d.* The demand in Pará is strong, especially for America, and the advent of winter in the States ought certainly to help prices in the near future, especially if the prediction as to crop supplies is realized. Reviewing the situation as a whole, we think the market is in a sound position. There is little or no speculation, trade has been on the whole good, prices are considerably lower than they have been for some time past, stocks are well held, and the general anticipation is that early in the new year we shall see an improvement both in demand and prices; at any rate, in our opinion, present rates are worth manufacturers' attention. Sales on spot total 200 tons as above; for delivery the demand has been quiet, closing prices for Upriver being 3*s.* 7*d.* to 3*s.* 7½*d.*, and Islands 3*s.* 6*d.* to 3*s.* 6½*d.*, according to position.

MR. A. J. FONTANNAZ, until December 31 last Liverpool agent of the Cie. Française de l'Afrique Occidentale (with 6,000,000 francs capital and head offices at Marseilles), retired on that date to become a member of the produce brokerage firm of William Porter & Co., The Albany buildings, Liverpool.——The Liverpool house of the French company named, at 6, Castle street, has been placed in charge of Mr. A. Pourrière, for some time in charge of the company's Sierra Leone house, and who is fully acquainted with all the branches of their business.

MARIUS & LEVY report [January 14]: "Receipts [of Parás] have increased so far by about 2400 tons in excess of the last crop, but on the other hand, Mediums [Africans, etc.] have decreased 2560 tons, which balances the excess of the Pará crop. Fine Pará has touched a figure which has not been seen for many years, and we may say that it is now the cheapest rubber in the world, and that fact will bring more buyers forward for this grade." They emphasize the fact, however, that low prices never have been known to increase production, so that curtailed supplies will, in the end, result in another advance in rubber.

London.

EDWARD TILL & CO., under date of January 1, report stocks:

		1902.	1901.	1900.
LONDON	Pará sorts.....tons	—	—	—
	Borneo	144	220	179
	Assam and Rangoon	52	30	17
	Other sorts	442	788	448
	Total	638	1038	644
LIVERPOOL	Pará	1302	776	440
	Other sorts	854	1087	771
	Total United Kingdom	2794	2901	1855
	Total, December 1	2525	3061	1789
	Total, November 1	2602	3040	1860
	Total, October 1	2802	2846	1831
	Total, September 1	2736	3170	1988
	Total, August 1	2944	3645	1878
	Total, July 1	3128	3653	2247

PRICES PAID DURING DECEMBER.

	1901.	1900.	1899.
Pará fine, hard	3/7 @3/7½	3/9½@3/10	4/5½@4/6½
Do soft	3/4½@3/6½	3/9½@4/–	4/7
Negroheads, Islands	2/0½@2/1	2/1½	2/9
Do scrappy	2/7 @2/9	2/9 @2/10	3/7 @3/7½
Bolivian	3/7½@3/9	No sales.	4/7

THE partnership of Jackson & Till, Mincing lane, London, expired by limitation of time on December 31. The business of the recent firm will be continued in two separate branches—that of rice under the style of *Jackson, Son & Co.*, and that of India-rubber and Gutta-percha under the style of *Edward Till & Co.*, embracing Mr. Edward Till, his nephew, H. S. Till, and his son, E. W. Till. Both firms will occupy the same offices as hitherto.

FIGGIS & CO. say, in their annual review: "The year has shown a continued increase of demand for the finer rubbers at relatively higher prices, and the European consumption of fine Pará considerably exceeds any previous year. English manufacturers have been very busy; Continental fairly so. American were less occupied, until the last three months. On the whole, the year has been a very active one."

Antwerp.

EMILE GRISAR'S annual review for 1901 shows a continued growth of this market, due to increased activity of producers in Africa. The efforts to build up a market for other than Congo sorts at Antwerp have not been encouraging on account of irregular supplies, lack of uniform qualities, and the preference of buyers in this market for Congo rubbers. The following comparison bears upon this subject, showing the source of rubber imports (in kilograms):

	1899.	1900.	1901.
Congo Free State	2,992,414	4,902,003	5,417,456
Other countries	410,466	796,032	431,746
Total	3,402,880	5,698,035	5,849,202

At times during the year there have been large accumulations of rubber here, but concessions which were made in prices attracted a wider circle of buyers, and stocks were reduced. The actual production of the Congo Free State may now be considered as normal, and the efforts of the agents of the different companies appear to be directed more to improving the quality of the product and to the proper storage than to increasing the output. The plans of the newly organized "Syndicat du Kassai" lead to the hope of an important increase in the value of the rubber production in the basins of the Kassai and Lualaba rivers. Those districts sent formerly some of the finest rubber ever seen in Antwerp, since which, owing to the pressure of buyers for rubber the quality has diminished to an embarrassing degree, the negroes caring only for the quantity produced. Many lots from that region during the year consisted of balls of which only the outside was rubber, the interior being badly mixed with bark and other foreign matters. The quality of the so called "white" Upper Congo rubbers still leaves much to be desired. The trouble has been due in part to the admixture of rubber milk from different plants, and partly to insufficient drying of the rubber. Prices at Antwerp improved during the first part of the year—especially in April, when there was heavy buying for America—after which they declined materially. There was again some improvement toward the end of the year, but the close was at a lower level than twelve months before.

COMPARATIVE PRICES.

GRADES.	Dec. 31, 1899.	Dec. 31, 1900.	Dec. 31, 1901.
Kassai, red.....francs per kilo.	10.50	9.	8.52½
Lopori, Bussira, Equateur, Lulonga, Ikelemba	10.62½	8.35	7.90
Aruwimi	9.45	7.75	7.50
Mongalla	10.25	7.90	7.50
Upper Congo, ordinary	10.25	7.90	7.35
Lower Congo red thimbles	6.17½	4.32½	3.80
Fine Pará	4*s.* 7*d.*	3*s.* 10*d.*	3*s.* 7*d.*

C. SCHMID & CO. report [January 2] that the market had been featureless since the last preceding sale, only small lots having changed hands at unchanged prices. Prices had declined, on an average, about 6 per cent. during 1901. The production of rubber in the Congo Free State seems to have

reached a climax for the present, the increase during the year having been only 500 tons. There were to be exposed for sale on January 21 about 344 tons of Congo sorts, with valuations as follows—in francs per kilogram—of principal lots:

32 tons	Loporl firsts	7.80	27 tons	Lomami	7.25
52 "	Upper Congo balls	7.15	13 "	Upper Congo strips	6.50
34 "	Aruwimi	5.75	17 "	Uelé strips	5.75
25 "	Mongalla	6.75	9 "	Kassai red	6.95
17 "	Lake Leopold I	4.50	11 "	Djuma red	5.15

ANTWERP RUBBER STATISTICS FOR DECEMBER.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stocks, Nov. 30. Kilos	843,301	1,064,646	179,778	270,315	183,215
Arrivals December.	204,860	170,135	319,351	220,869	84,880
Congo sorts	182,525	151,726	269,879	193,671	56,361
Other sorts	22,395	18,409	49,472	27,198	28,519
Aggregating	1,048,221	1,234,781	499,129	491,184	268,095
Sales December	633,512	620,742	207,138	227,844	173,632
Stocks, Dec. 31.	414,709	614,039	291,991	263,340	94,463
Arrivals since Jan. 1	5,849,302	5,698,035	3,402,880	2,014,591	1,679,154
Congo sorts	5,417,456	4,902,003	2,881,596	1,734,305	1,543,203
Other sorts	431,746	796,032	521,284	280,286	135,951
Sales since Jan. 1	6,048,442	5,375,987	3,374,229	1,845,714	1,724,319

ARRIVALS AT ANTWERP.

JANUARY 3.—By the *Anversville*, from the Congo:

Bunge & Co	(Société Anversoise) *kilos*	3,500
Bunge & Co.	(Comité Spécial Katanga)	16,000
Bunge & Co.	(Plantations Lacourt)	7,000
Bunge & Co	(Société Isanghi)	8,000
Bunge & Co.	(Domaine privé Etat du Congo)	173,000
Ch. Dethier.	(Société Belgika)	37,000
Société A B I R		11,000
M. S. Cols	(Produits Vegetaux du Kassai)	12,000
Société Coloniale Anversoise	(Beige du Haut Congo)	35,000
Société Coloniale Anversoise.	(Cie. des Mag. Generaux)	9,000
Société Coloniale Anversoise.	(Société Lomami)	9,000
Cie. Commerciale des Colonies.	(La Kassaienne)	4,000
Cie. Commerciale des Colonies	(Cie Française du Congo)	3,000
L. & W. Van de Velde	(Comptoirs Congolais Velde).	9,000
Credit Commercial Congolais	(La Lulonga)	4,000
Crédit Commercial Congolais	(M. D'Heygere á Gand)	1,500
Traffic Congolais		2,000
Société pour Commerce Colonial	(Est du Kwango)	4,000
Comptoir Commercial Congolais		4,000
Soc. Agricole & Commercial de l'Alima		3,000 355,000

[Arrivals same date, 1901—208,000 kilograms.]

M. LOUIS M. L. GELIS, of Antwerp, advises THE INDIA RUBBER WORLD that on January 10 he retired from the directorate of the Cie. Commerciale des Colonies, Société Anonyme, of that city, engaged in exploiting rubber in Brazil and Africa.

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Hamburg market during the past week showed no sign of life whatever, along the whole line, and the tendency, caused by the retrogression of Pará prices, is a waiting one, in consequence of which the transactions remained within narrow bounds. The disposals were—at marks per kilogram:

Bolivian, fine, spot	7.85 @ 7.90
Bolivian negroheads, spot	5.90
Mollendo, fine, new	7.65
Mozambique ball, fine red	7.50
Mozambique ball, fine red	7 35
Massai niggers, fine red	6.10
Bissao ball, fine white	5.50
Adeli ball, fine red, slightly mixed	6 10
Ecuador scrap, fine	5.75
Colombia scrap, good	5.60
Batanga ball	4.15 @ 4.20
White Borneo	5.00 @ 5.10

Hamburg, January 14, 1902.

Lisbon.

MARTIN WEINSTEIN & CO. report arrivals, in metric tons:

	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Benguella niggers	1154	1306	1583	1793	2444	1879	1614	1460
Loanda niggers	727	679	660	983	962	885	678	754
Congo thimbles	138	29	45	89	150	264	206	145
Other sorts	45	103	28	41	20	30	48	71
Total	2064	2117	2316	2906	3576	3058	2546	2430

British Imports of India-Rubber.

	1899.	1900.	1901.
Imports.....pounds.	50,360,912	57,488,032	52,161,088
Exports.....	34,284,320	32,885,888	32,904,704
Net imports	16,076,592	24,602,144	19,256,384
GUTTA-PERCHA.			
Imports.....pounds.	9,239,664	14,118,608	9,883,552
Exports.....	840,224	1,709,792	1,224,832
Net imports	8,399,440	12,408,816	8,658,720

Gutta-Percha.

REPORTS are at hand relative to the exports from Singapore during 1901 up to December 10, which are stated below, together with exports for the first eleven months of 1901, compared with the same period of 1900, and showing a considerable decline during the past year:

To—	To Dec. 10.	11 mos. 1901.	11 mos. 1900.
Great Britain....pounds	7,657,066⅔	7,336,000	9,763,733⅓
Other Europe	2,921,466⅔	2,900,400	2,740,266⅔
United States	1,136,800	1,321,333⅓	254,333⅓
Total	11,715,333⅓	11,557,733⅓	13,758,333⅓
GUTTA-JELUTONG (PONTIANAK).			
Great Britain	829,600	829,600	2,711,733⅓
Other Europe	1,572,800	1,474,266⅔	733,466⅔
United States	13,828,000	13,612,400	7,442,133⅓
	16,230,400	15,916,266⅔	10,887,333⅓

Late quotations for Gutta-jelutong, $7 silver per picul; equivalent to about 1.6 cents per pound.

Balata.

FRENCH GUIANA has not figured as a Balata exporting country hitherto, but it is stated that during the first seven months of 1901 there were shipped from that colony 3547½ kilos [=78,045 pounds] of this material.

It is stated that very little Gutta-percha and Balata reaches the open market at Rotterdam, although a very large business is done privately in these materials at that port.

Kramrisch & Co. (Liverpool) in their trade review for 1901 report: "*Balata.*—We had reduced arrivals of these descriptions, and all the imports of these grades have met with a good demand, although at one time block Balata was as low as 1*s.* 7*d.* The year closes with buyers at 2*s.* and sellers at 2*s.* 1*d.* Nearly the whole of the stock in first and second hands has been cleared off and gone into consumption, and all new arrivals are selling very readily at full price. *Sheet Balata.*—Owing to the increased consumption the prices have also gradually gone up, and the market closes with buyers at 2*s.* 7*d.* showing 4*d.* per pound advance for the year."

TO THE EDITOR OF THE INDIA RUBBER WORLD: The shipment of Balata from the port of Ciudad Bolivar during 1901 was as follows; in kilograms:

January-July	269,105	November	212,775
August	112,427	December	255,603
September	178,731		
October	167,873	Total	1,196,414

This amount is only slightly smaller than the figures for the

same port in 1900. The season has been a good one, but the political troubles in the country have interfered with trade. I hope soon to be able to forward a statement of the total Balata export from Venezuela. O. E.

Cuidad Bolivar, Venezuela, January 14, 1901.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

January 3.—By the steamer *Gregory*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
A. T. Morse & Co.	219,200	48,000	157,300	300=	424,800
New York Commercial Co.	202,000	66,000	105,400	3,400=	376,800
International Crude R. Co.	145,000	25,300	42,100	300=	212,800
Reimers & Co.	67,100	18,300	85,100	26,800=	197,300
Lawrence Johnson & Co.	12,900	1,100	2,700	6,500=	23,200
William Wright & Co.	....	....	300	14,500=	14,800
Boston Rubber Shoe Co.	....	....	....	11,700=	11,700
L. Hagenaers & Co.	3,900	....	800	....=	4,700
Total.	650,200	158,700	393,700	63,500=	1,266,100

January 21.—By the steamer *Cearense* from Manáos and Pará:

A. T. Morse & Co.	74,400	20,800	157,300	71,200=	323,700
Reimers & Co.	72,900	26,400	90,500	31,800=	221,600
New York Commercial Co.	42,400	27,700	52,300	1,000=	123,400
International Crude R. Co.	33,200	6,700	7,100	400=	47,400
United States Rubber Co.	22,000	1,900	6,300	.....=	30,200
Boston Rubber Shoe Co.	....	....	22,700	.....=	22,700
Lawrence Johnson & Co.	...	....	11,400	.....=	11,400
Robinson & Tallman.	6,300	1,800	1,700	.....=	9,800
L. Hagenaers & Co.	3,800	.....	700	.....=	4,500
Total.	255,000	85,300	350,000	104,400=	794,700

[NOTE.—The *Cametense*, with 520 tons of Rubber was due at New York, on January 29.]

PARA RUBBER VIA EUROPE.

DEC. 26.—By the *Majestic*=Liverpool:

	POUNDS.
Reimers & Co. (Coarse)	10,600

DEC. 30.—By the *Umbria*=Liverpool:

Reimers & Co. (Caucho)	33,400

JAN. 3, 1902.—By the *Tauric*=Liverpool:

Edmund Reeks & Co. (Caucho)	10,400

JAN. 6.—By the *Cymric*=Liverpool:

Edmund Reeks & Co (Fine)	6,000	
Edmund Reeks & Co. (Coarse)	2,000	
Edmund Reeks & Co. (Caucho)	2,500	10,500

JAN. 7.—By the *Saxonia*=Liverpool:

A. T. Morse & Co. (Coarse)	11,500	
Reimers & Co. (Coarse)	9,000	20,500

JAN. 9.—By the *Teutonic*=Liverpool:

Reimers & Co. (Caucho)	11,500

JAN. 13.—By the *Etruria*=Liverpool:

Reimers & Co. (Fine)	10,000

JAN. 15.—By the *Cuzco*=Mollendo:

New York Commercial Co. (Fine)	9,500	
New York Commercial Co. (Coarse)	1,500	11,000

JAN. 18.—By *La Savoie*=Havre:

Reimers & Co. (Fine)	16,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

DEC. 24.—By the *Allianca*=Colon:

	POUNDS.	
Hirzel, Feltman & Co.	15,300	
A. P. Strout	10,500	
Isaac Brandon & Bros	7,700	
A. Santos & Co.	6,700	
D. A. De Lima & Co.	3,600	
Flint, Eddy & Co	3,300	
G. Amsinck & Co.	2,300	
W. R. Grace & Co	3,000	
Dumarest & Co.	1,500	
Crude Rubber Co.	1,500	
Frame, Alston & Co	1,300	
Eggers & Heinlein.	1,100	
Thebaud Brothers.	1,000	
J. W. Wilson & Co.	200	
Joseph Hecht	900	
R. G. Barthold	900	
D. N. Carrington	400	60,800

DEC. 24—By the *Altai*=Savanilla:

Kunhardt & Co.	2,000	
D. A. De Lima & Co.	1,500	
Lawrence Johnson & Co.	1,500	
G. Amsinck & Co.	1,500	
Samper & Co.	1,000	
S. A. Naulier	1,500	9,000

DEC. 27.—By *El Dorado*=New Orleans:

L. N. Chemedlin & Co.	2,200	
Eggers & Heinlein	500	
For Europe	2,500	5,200

DEC. 30.—By the *Raphael*=Bahia:

J. H. Rossbach & Bros.	12,500

DEC. 30.—By the *Comus*=New Orleans:

A. T. Morse & Co.	4,500

DEC. 31.—By the *Athos*=Greytown:

A. P. Strout	14,500	
A. D. Straus & Co.	9,000	
G. Amsinck & Co	4,000	
Jimenez & Escobar	3,500	
D. A. DeLima & Co.	1,500	
J. A. Medina	1,000	33,500

JAN. 2.—By the *Finance*=Colon:

Hirzel, Feltman & Co.	10,000	
A. Santos & Co.	6,700	
Dumarest & Co.	5,400	
Flint, Eddy & Co.	4,500	
G. Amsinck & Co	4,000	
International Crude Rubber Co.	2,900	
Ascensio & Cossio	1,500	
W. R. Grace & Co	600	
Everett, Heaney & Co.	600	
Eggers & Heinlein	500	40,700

JAN. 2.—By *El Sud*=New Orleans:

A. T. Morse & Co.	5,500

JAN. 3.—By N. Y. Cen. R.R.=San Francisco:

J. Gilgar	4,000	
G. Amsinck & Co.	700	
L. N. Chemedlin & Co.	700	5,400

JAN. 4.—By *El Norte*=New Orleans:

A. T. Morse & Co.	3,500

JAN. 6.—By the *City of Washington*=Mexico:

H. Marquardt & Co.	2,500	
Fred. Probst & Co.	1,500	
E. N. Tibbals	300	4,300

JAN. 6.—By the *Cervantes*=Bahia:

Lawrence Johnson & Co.	1,300	
G. Amsinck & Co.	500	
Susdorf, Zaldo & Co.	200	2,000

JAN. 10.—By the *Havana*=Mexico:

E. Steiger & Co	4,000	
Thebaud Brothers	1,500	
Harburger & Stack	200	5,700

JAN. 13.—By the *Palatia*=Hamburg:

A. T. Morse & Co.	2,200

JAN. 16.—By the *Orizaba*=Colon:

Hirzel, Feltman & Co.	9,500	
H. Marquardt & Co.	5,300	
G. Amsinck & Co	2,200	
Mecke & Co.	1,900	
Kunhardt & Co.	1,500	
Joseph Hecht & Son	1,400	
Lawrence Johnson & Co.	1,200	
W. Loaiza & Co	1,200	
A. D. Straus & Co.	1,100	
Smithers, Nordenholt & Co.	200	25,500

JAN. 11.—By *El Cid*=New Orleans:

A. T. Morse & Co.	1,000	
Eggers & Heinlein	1,500	
For Europe	3,000	5,500

JAN. 14.—By the *Alene*=Greytown:

A. P. Strout	10,000	
G. Amsinck & Co.	4,000	
A. D. Straus & Co.	3,000	
D. A. DeLima & Co.	1,200	
J. A. Pauli & Co.	700	
Lawrence Johnson & Co.	600	19,500

JAN. 16.—By the *Advance*=Colon:

Hirzel, Feltman & Co.	1,700	
Flint, Eddy & Co.	1,200	2,900

JAN. 16.—By Pennsylvania RR.=New Orleans:

John Gilgar	1,200	
For Europe	4,000	5,200

JAN. 17.—By the *Esperanza*=Mexico:

Thebaud Bros.	3,000	
E. Steiger & Co.	1,300	
Harburger & Stack	700	5,000

JAN. 17.—By the *Germanic*=Liverpool:

Livesey & Co.	6,000

JAN. 18.—By the *Seneca*=Mexico:

Flint, Eddy & Co.	5,500	
H. Marquardt & Co.	500	
Graham, Hinckley & Co.	200	6,200

JAN. 20.—By *El Mar*=New Orleans:

A. T. Morse & Co.	7,000	
A. N. Rotholz	6,000	13,000

JAN. 21.—By the *Altai*=Carthagena:

D. A. De Lima & Co.	3,000	
Kunhardt & Co.	2,200	
Lawrence Johnson & Co.	1,000	
Isaac Brandon & Bros.	500	
New York Commercial Co.	300	
Jimenez & Escobar	200	7,200

JAN. 21.—By the *Cyrene*=Bahia:

J. H. Rossbach & Bros.	13,000

AFRICANS.

	POUNDS.	
DEC. 26.—By the *Majestic*=Liverpool:		
A. T. Morse & Co.	23,000	
George A. Alden & Co.	12,000	
Crude Rubber Co.	11,000	46,000
DEC. 27.—By the *Haverford*=Antwerp:		
Reimers & Co.	86,500	
George A. Alden & Co.	73,000	
Joseph Cantor	2,000	
Crude Rubber Co.	73,000	234,500
DEC. 27.—By the *Patricia*=Hamburg:		
A. T. Morse & Co.	35,000	
Otto G. Mayer, Boston	7,000	
Reimers & Co.	2,500	44,500
DEC. 30.—By the *Umbria*=Liverpool:		
George A. Alden & Co.	53,000	
Crude Rubber Co	52,500	
Livesey & Co.	11,000	
Reimers & Co.	10,000	126,500
JAN. 2.—By the *Zeeland*=Antwerp:		
Reimers & Co	127,000	
International Crude Rubber Co.	100 000	
George A. Alden & Co.	85,000	
For Boston	44.000	356,000
JAN. 3.—By the *Tauric*=Liverpool:		
George A. Alden & Co.	22,500	
International Crude Rubber Co.	22,000	44,500
JAN. 7.—By the *Saxonia*=Liverpool:		
Robinson & Tallman	23,000	
Reimers & Co.	5,000	28,000
JAN. 9.—By the *Teutonic*=Liverpool:		
George A. Alden & Co.	16,000	
International Crude Rubber Co.	4,000	20,000
JAN. 9.—By the *Friesland*=Antwerp:		
For Boston		35,000
JAN. 11.—By the *Peninsular*=Lisbon:		
Reimers & Co.	56,000	
A. T. Morse & Co.	11,500	67,000
JAN. 13.—By the *Etruria*=Liverpool:		
Robinson & Tallman		15,000
JAN. 15.—By the *Southwark*=Antwerp:		
George A. Alden & Co	3,500	
International Crude Rubber Co.	3,000	6,500
JAN. 16.—By the *Georgic*=Liverpool:		
George A. Alden & Co.	17,000	
International Crude Rubber Co.	18,000	35,000
JAN. 17.—By the *Pennsylvania*=Hamburg:		
Otto Meyer, Boston	18,500	
Livesey & Co.	10,000	
George A. Alden & Co.	10,000	
International Crude Rubber Co.	10,000	
A. T. Morse & Co.	2,000	50,500

AFRICANS—Continued.

JAN. 17.—By the *Germanic*=Liverpool:

Robinson & Tallman	22,500	
Livesey & Co.	11,500	34,000

JAN. 18.—By the *Panama*=Bordeaux:

Robert B. Baird	2,500	
Reimers & Co.	2,500	5,000

JAN. 20.—By the *Ivernia*=Liverpool:

International Crude Rubber Co.	35,000	
George A. Alden & Co.	7,000	42,000

JAN. 21.—By the *Vaderland*=Antwerp:

Joseph Cantor	9,000

EAST INDIAN.

	POUNDS.	
DEC. 27.—By the *Patricia*=Hamburg:		
William Wright & Co.	11,500	
DEC. 31.—By the *Longships*=Singapore:		
D. F. Cruikshank	22,500	
JAN. 17.—By the *St. Louis*=Southampton:		
George A. Alden & Co.	30,000	
JAN. 13.—By the *Satsuma*=Singapore:		
William Wright & Co.	13,500	
Reimers & Co.	11,500	25,000
JAN. 20.—By the *Adana*=Singapore:		
Robert Brauss & Co.	15,000	
Schieffenan, Herr & Co.	1,500	16,500

PONTIANAK.

DEC. 31.—By the *Longships*=Singapore:		
Livesey & Co.	270,000	
William Wright & Co.	125,000	
Reimers & Co.	200,000	
George A. Alden & Co.	160,000	
Robinson & Tallman	33,000	788,000
JAN. 13.—By the *Satsuma*=Singapore:		
George A. Alden & Co.	425,000	
Reimers & Co.	225,000	
William Wright & Co.	110,000	
Robinson & Tallman	150,000	
Littlejohn & Parsons	22,000	932,000
JAN. 20.—By the *Richmond Castle*=Singapore:		
George A. Alden & Co.		200,000

EAST INDIANS—Continued.

JAN. 20.—By the *Adana*=Singapore:

W. R. Russell & Co.	280,000	
George A. Alden & Co.	120,000	400,000

GUTTA-PERCHA AND BALATA.

	POUNDS.	
DEC. 31.—By the *Longships*=Singapore:		
Robert Soltau & Co.	13,500	

BALATA.

JAN. 4.—By the *Maracas*=Trinidad:		
George A. Alden & Co.		2,000
JAN. 16.—By the *Prins Fred. Hendrik*=Surinam:		
G. Amsinck & Co.	1,000	
Thebaud Bros.	2,500	3,500
JAN. 18.—By the *Carthagenian*=Glasgow:		
Earle Brothers		3,300

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—DECEMBER.

Imports:	POUNDS.	VALUE.
India-rubber	4,783,679	$2,252,340
Gutta-percha	5,468	19,861
Gutta-jelutong (Pontianak)	214,455	5,581
	5,043,602	$2,277,782
Exports:		
India-rubber	47,202	$25,454
Reclaimed rubber	168,706	20,172
Rubber Scrap Imported	1,314,456	$88,591

BOSTON ARRIVALS.

	POUNDS.	
NOV. 29.—By the *New England*=Liverpool:		
Livesey & Co.—African		4,423
DEC. 2.—By the *Lydia*=Hamburg:		
Otto Meyer.—African		11,841

BOSTON—Continued.

DEC. 3.—By the *Sagamore*=Liverpool:		
George A. Alden & Co.—African	4,793	
Reimers & Co.—African	22,600	
Reimers & Co.—Caucho	11,433	38,226
DEC. 9.—By the *Cambrian King*=Antwerp:		
Otto Meyer.—African		3,082
DEC. 11.—By the *Turcoman*=Liverpool:		
Reimers & Co.—Caucho.		3,574
DEC. 12.—By the *Kansas*=Liverpool:		
Livesey & Co.—African	12,387	
George A. Alden & Co.—African	220	12,607
DEC. 12.—By the *Philadelphian*=Liverpool:		
Robinson & Tallman.—Fine Pará	4,500	
Robinson & Tallman.—Coarse Pará	2,691	7,191
DEC. 17.—By the *Anglian*=London:		
Reimers & Co.—Erst Indian		14,611
DEC. 19.—By the *Lancastrian*=Liverpool:		
Reimers & Co.—Fine Pará	2,218	
Livesey & Co.—Centrals	563	2,781
DEC. 21.—By the *Vaderland*=Antwerp:		
Otto Meyer.—African		12,313
[Included in arrivals at New York, December 17.]		
DEC. 22.—By the *Sachem*=Liverpool:		
Reimers & Co.—African		25,617
DEC. 26.—By the *Bostonian*=London:		
Reimers & Co.—African		46,796
DEC. 28.—By the *Sylvania*=Liverpool:		
George A. Alden & Co.—African		23,050
Total		207,112
[Value, $104,633.]		

GUTTA-PERCHA.

DEC. 7.—By the *Columbian*=London:		
George A. Alden & Co.		8,212
DEC. 10.—By the *Livonian*=Glasgow:		
George A. Alden & Co.		1,003
		9,215

DECEMBER EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.	44,304	7,730	57,289	—	109,323	225,930	21,080	54,240	—	301,250	410,573
Frank da Costa & Co.	129,119	18,079	157,181	1,080	305,459	109,342	12,634	43,252	—	165,228	470,687
Adelbert H. Alden	152,521	44,607	108,275	1,103	306,506	106,200	8,460	17,920	9,360	141,940	448,446
Neale & Staats	—	—	8,000	—	8,000	78,524	10,926	7,254	2,618	99,322	107,322
Denis Crouan & Co.	—	—	10,207	—	10,207	49,543	7,044	25,314	287	82,188	92,395
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	54,796	8,239	9,223	81	72,339	72,339
Kanthack & Co.	6,396	1,382	1,318	—	9,096	30,499	7,417	4,783	—	42,699	51,795
The Sears Pará Rubber Co.	14,545	2,500	30,711	1,047	48,803	—	—	—	—	—	48,803
Pires, Teixeira & Co.	2,472	—	1,264	—	3,736	194	—	1,040	—	1,234	4,970
B. A. Antunes & Co.	430	—	86	3,248	3,764	—	—	—	—	—	3,764
Direct from Manáos	642,741	172,526	154,286	72,118	1,041,671	539,461	184,247	77,265	30,351	831,324	1,872,995
Total for December	992,528	246,824	528,617	78,596	1,846,565	1,194,489	260,047	240,291	42,697	1,737,524	3,584,089
Total for January-June	4,868,612	1,131,774	2,401,598	1,111,084	9,513,068	3,353,916	732,916	1,408,662	1,980,886	7,476,380	16,989,448
Total for July-December	3,159,115	794,731	1,869,858	214,206	6,037,910	4,585,094	823,442	1,196,891	657,713	7,263,140	13,301,050
TOTAL, 1901	8,027,727	1,926,505	4,271,456	1,325,290	15,550,978	7,939,010	1,556,358	2,605,553	2,638,599	14,739,520	30,290,498

IMPORTS OF INDIA-RUBBER IN THE PRINCIPAL MARKETS.

(IN KILOGRAMS.) REPORTED BY EMILE GRISAR, ANTWERP.

PORTS.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Liverpool	11,445,000	12,244,000	13,222,000	16,113,000	14,627,000	18,136,000	15,659,000	17,831,000
London	1,740,000	1,966,000	1,544,000	1,718,000	2,053,000	2,752,000	2,561,000	2,202,000
Havre	1,065,260	1,326,821	1,499,666	1,633,140	2,326,665	2,394,600	3,032,000	4,327,000
Bordeaux	—	—	—	20,142	11,914	19,430	105,613	121,213
Rotterdam	437,000	372,000	300'000	324,500	303,500	242,000	217,000	354,000
Antwerp	167,196	274,580	531,074	1,115,875	1,679,154	2,014,591	3,402,880	5,698,000
United States	15,706,000	14,252,000	15,858,000	13,833,000	17,421,000	18,470,000	22,674,000	20,468,000
Total	30,566,456	30,435,401	32,954,740	34,757,657	38,422,233	44,028,621	47,651,493	51,001,213

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"GUTTAPERCH, TORONTO."

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Rubber Belting
Packings, Hose and
Mechanical Rubber Goods

SOLE MANUFACTURERS IN CANADA OF

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"Maltese Cross" Carbolized Rubber Fire Hose,
"Eureka," "Paragon" and other High Grades Cotton Fire Hose.

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